

XX MPI: 1999-571843/48.
 DR P-PSDB: AAY42107.
 XX
 PT New human MEKK polynucleotides and polypeptides, used for regulating
 PT signal transduction in cells -
 XX
 PS Example 1; Fig 3; 159pp; English.
 XX
 CC The present sequence encodes murine mitogen-activated protein kinase/
 CC extracellular response kinase (MAPK/ERK) kinase kinase (MEKK).
 CC Specifically designated MEKK1. The MEKK proteins are used to modulate
 CC and regulate signal transduction in cells, as well as for regulation of
 CC gene transcription in a cell encoding MEKK, where the cell is involved
 CC in inflammation, regulation of cellular proliferation and
 CC differentiation, regulation of development, regulation of cell death or
 CC regulation of inflammation. They are also used to prepare antibodies.
 CC MEKK polynucleotides can be used to produce the protein recombinantly
 CC and as a source of probes and primers.
 CC
 SQ Sequence 5253 BP; 1299 A; 1403 C; 1433 G; 1118 T; 0 other;

Query Match 100.0%; Score 5253; DB 20; Length 5253;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 5253; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 gccgcgagagaaatgacgagcgagcgagcgatcgctcgtcgtcagatcccg 60
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 DB 61 gcgcgcgagcgagcgatcccgagcgagcgagcgagcgagcgagcgagcgagcg 120
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 OY 241 agctcgcgagcgagcgagcgagcgagcgagcgagcgagcgagcgagcgagcgagcg 300
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 DB 301 cgtcgcgagcgagcgagcgagcgagcgagcgagcgagcgagcgagcgagcgagcg 360
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 DB 721 ctgcacacgagcccccaagggcgagcgagcgagcgagcgagcgagcgagcgagcgagcg 780
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QY	1861	ggcggtctctccagcgccagcaltccagggggtttgggtggagagcggtgcgcagcttccgt	1920
Db	1861	ggcggtctctccagcgccagcaltccagggggtttgggtggagagcggtgcgcagcttccgt	1920
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Db	1921	ctatagctctcgctgacccctgtctcaagaagtgtacgtttgcgtcttaaaaaatgtagag	1980
QY	1981	ccaagctgtgtatacaactcctctgcacagctctgcgcgaagaagatcaaaacttaagagaccc	2040
Db	1981	ccaatctgtgtatacaactcctctgcacagctctgcgcgaagaagatcaaaacttaagagaccc	2040
QY	2041	tccgcgcagctgttaacacatacctctgtccaagtgtgcagatgtgcacacgcgcgaagatc	2100
Db	2041	tccgcgcagctgtgtagaacatacctctgtccaagtgtgcagatgtgcacacgcgcgaagatc	2100
QY	2101	agcgttccaatactacagctgtcgtgaactctgtgaagggccaagcagaagagctggcggtg	2160
Db	2101	agcgttccaatactacagctgtcgtgaactctgtgaagggccaagcagaagagctggcggtg	2160
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Db	2161	ggagagaaatacttaaaagtctggccatctgggggtttgtgtgtcgtatlaagcttaagt	2220
QY	2221	gtatcctctggaaaccaagctgtgatcaacaacactgtgcagaagatctgtgtgtcgcctctgc	2280
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QY	2281	ttatagacaggtgtgcgtttgggaattccgcgtgaattccatccatactgtgcagtaactg	2340
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RESULT 2					
ID	AAx80911				
XX	AAx80911	standard; CDNA; 5253 BP.			
XX	AAx80911;				
DT	03-NOV-1999	(first entry)			
DE	Murine MEK1 cDNA.				
XX	Murine MEK1 cDNA:				
KW	Murine MEK1 cDNA: Mitogen ERK Kinase Kinase 1 protein; MEK1: protease,				
KW	extracellular signal regulated kinase; ERK: signal transduction pathway;				
KW	regulation; apoptosis; protein kinase; cleavage; caspase; antibody;				
KW	kinase fragment; mutant MEK1 protein; NH2-terminal fragment; detection;				
KW	immunoreactive; diagnostic; therapeutic assay; reagent; disorder;				
KW	aberrant expression; activation; MEK1 gene product; DNA probe; primer;				
KW	selectively hybridise; ss.				
OS	Mus sp.				
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FT	/function= "Regulates cellular apoptosis"				
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FT	/tag= b				
FT	3'UTR	4497..5253			
FT	/tag= c				
FT	mat_peptide	2637..4493			
FT	/tag= d				
FT	/note= "Active fragment that mediates apoptosis"				
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XX	19-AUG-1999.				
XX	12-FEB-1999;	99WO-USO2974.			
XX	13-FEB-1998;	98US-0023130.			
XX	(CADU-) CADUS PHARM CORP.				
PI	Johnson GL;				
DR	WPI; 1999-508649/42.				
DR	P-PSDB; AAY26234.				
<hr/>					
A new mammalian serine-threonine protein kinase for treating					
disorder characterized by aberration of the enzyme gene					
<hr/>					
Claim 1a; Page 113-119; 149pp; English.					
<hr/>					
The present sequence is an isolated murine MEK1 cDNA. It encodes					
Mitogen ERK kinase Kinase 1 (MEK1) protein, which functions to					
integrate proteases and signal transduction pathways involved in the					
regulation of apoptosis. It is a 196 kDa protein kinase, which upon					
cleavage at Asp 871/874 by caspase generates a 91 kDa kinase fragment					

SQ Sequence 5253 BP; 1299 A; 1403 C; 1433 G; 1118 T; 0 other;

Matches 5253; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

[illegible]

Dh	841	gfggagagatacaacaacaccccgaaagagccccacacacggatggtctctcccggtacagcc	900
Qy	901	cagagagagacgagcccgcccggtgacaagaatgagabagagccagagctgtacccctgtcagcc	960
Dh	901	cagagagagacgagcccgcccggtgacaagaatgagabagagccagagctgtaccccggtcagcc	960
Qy	961	agatagagagcccaactctctctctgtatgtgagagagagagctccagagcaataatcccggtgt	1020
Dh	961	agatagagagcccaactctctctctgtatgtgagagagagagctccagagcaataatcccggtgt	1020
Qy	961	agatagagagcccaactctctctctgtatgtgagagagagagctccagagcaataatcccggtgt	1020
Dh	961	agatagagagcccaactctctctctgtatgtgagagagagagctccagagcaataatcccggtgt	1020
Qy	1021	ttatgtggccacagaaactgtcagctgtgtggcggtgagagcatctgtatctcaaccctctgttg	1080
Dh	1021	ttatgtggccacagaaactgtcagctgtgtggcggtgagagcatctgtatctcaaccctctgttg	1080
Qy	1081	tcatgtctcccggtgtttcagcttgagaaacccctgtaccccatggtatgtgagagaaaaacttta	1140
Dh	1081	tcatgtctcccggtgtttcagcttgagaaacccctgtaccccatggtatgtgagagaaaaacttta	1140
Qy	1141	aaaaattcgaaggtgtgagaggtttgtgtccagaagaatataccagtaagcgtaactcagagataca	1200
Dh	1141	aaaaattcgaaggtgtgagaggtttgtgtccagaagaatataccagtaagcgtaactcagagataca	1200
Qy	1201	aagctccatcccggaacaacatccacagaagtgtgtgtcaacgcatgtcaaaattctccacaac	1260
Dh	1201	aagctccatcccggaacaacatccacagaagtgtgtgtcaacgcatgtcaaaattctccacaac	1260
Qy	1261	tgctacgtctcagacaataccacatctcagatctcagaaaaacagcatcaaggtgtcagaagagagc	1320
Dh	1261	tgctacgtctcagacaataccacatctcagatctcagaaaaacagcatcaaggtgtcagaagagagc	1320
Qy	1321	agatgtgtcccatctgtcgtctgtggcgatgcgtgtgagatgagagagagcctgactgtgtgagag	1380
Dh	1321	agatgtgtcccatctgtcgtctgtggcgatgcgtgtgagatgagagagagcctgactgtgtgagag	1380
Qy	1381	atgctgtcagagaaaaaagctgtgcacacacatctgtcatctgtcggcgagagaggtgtgaa	1440
Dh	1381	atgctgtcagagaaaaaagctgtgcacacacatctgtcatctgtcggcgagagaggtgtgaa	1440
Qy	1441	gaaatagagagacccctttaaataatgtcccccctgtgtatgatacgaagtgtgaaatcccaatgacct	1500
Dh	1441	gaaatagagagacccctttaaataatgtcccccctgtgtgtatgatacgaagtgtgaaatcccaatgacct	1500
Qy	1501	acagagcatgagttatacaagcccggtgagatgtcccccgtccctcgtcgtcagagctgtgtccagagcc	1560
Dh	1501	acagagcatgagttatacaagcccggtgagatgtcccccgtccctcgtcgtcagagagctgtgtccagagcc	1560
Qy	1561	catcctcccccagacagaccgggtggccggatatacaagaagggagagagatcaatgagagaaatttta	1620
Dh	1561	catcctcccccagacagaccgggtggccggatatacaagaagggagagagatcaatgagagagaaatttta	1620
Qy	1621	accttactcatatttggaaacccacagaaattctctccgcttacaagaatgttggccggagcat	1680
Dh	1621	accttactcatatttggaaacccacagaaattctctccgcttacaagaatgttggccggagcat	1680
Qy	1681	ggattcaggggtgttggagaaatgaaactcgtttggcgtcttatctctagaagaacttggaaagcttaa	1740
Dh	1681	ggattcaggggtgttggagaaatgaaactcgtttggcgtcttatctctagaagaacttggaaagcttaa	1740
Qy	1741	ggagaaatgagcccttaagagcgtctcttccacagaaagttatgtgtggccctcgtgtgttggacaag	1800
Dh	1741	ggagaaatgagcccttaagagcgtctcttccacagaaagttatgtgtggccctcgtgtgttggacaag	1800
Qy	1801	ggagagagcaactgtgaaactctggaagcggcagatgtggggagcagcttaagcgcggagagcggcca	1860
Dh	1801	ggagagagcaactgtgaaactctggaagcggcagatgtggggagcagcttaagcgcggagagcggcca	1860
Qy	1861	ggcgagctctccacggccagagcatctcaaggggagatgtgtgtgagagcgtgcgcaggttcccggt	1920
Dh	1861	ggcgagctctccacggccagagcatctcaaggggagatgtgtgtgagagcgtgcgcaggttcccggt	1920
Qy	1921	ctatagctgtcgcgtgacacctgttctacaagaatgtacagttgtcgtctttaaagaacttgaag	1980

Db	1921	ctatagtctgcgctgacccctgtctacaagtgtaagctgtcgtctttaaaaaacattgagag	1980
QY	1981	ccatgtctggbatacactctcttgccacagctctcggcagaaagaaatcaaatccagagatcc	2040
Db	1981	ccatgtctggbatacactctcttgccacagctctcggcagaaagaaatcaaatccagagatcc	2040
QY	2041	tcggcgcaagtttgaagacactatctctgtcaagttgtgcagatgcccacagccgacagatgc	2100
Db	2041	tcggcgcaagtttgaagacactatctctgtcaagttgtgcagatgcccacagccgacagatgc	2100
QY	2101	agctgtccatatactacagctgtcgtgaactctgcagaagcccaagagagctcggcggtg	2160
Db	2101	agctgtccatatactacagctgtcgtgaactctgcagaagcccaagagagctcggcggtg	2160
QY	2161	ggagagaataacttaaaagcttgggtccatcgggggttgggtgtgtcgaattccgtcttaagt	2220
Db	2161	ggagagaataacttaaaagcttgggtccatcgggggttgggtgtgtcgaattccgtcttaagt	2220
QY	2221	gtatcccttgggaaaccaaagctggaatcaaaacactggcaagaactgctgggttcgcctctgc	2280
Db	2221	gtatcccttgggaaaccaaagctggaatcaaaacactggcaagaactgctgggttcgcctctgc	2280
QY	2281	ttaataagaggttgcgtgttggaaatttcctgtcgtgaattctatccctcatatgttcagatcg	2340
Db	2281	ttaataagaggttgcgtgttggaaatttcctgtcgtgaattctatccctcatatgttcagatcg	2340
QY	2341	atgtctccaaagcttgagcctgttgaataatcaggtacaaagaaagctcctccctttaact	2400
Db	2341	atgtctccaaagcttgagcctgttgaataatcaggtacaaagaaagctcctccctttaact	2400
QY	2401	ttgccttgcaatccatgtaaatctccaaactcgaatgtgttgcaagctcctccgagagatat	2460
Db	2401	ttgccttgcaatccatgtaaatctccaaactcgaatgtgttgcaagctcctccgagagatat	2460
QY	2461	atctgagctctgcagagatggtgacccgagctgcgcgctgtgtttccaagctgtgtaacca	2520
Db	2461	atctgagctctgcagagatggtgacccgagctgcgcgctgtgtttccaagctgtgtaacca	2520
QY	2521	tgcttaattgtcttctgtgtccaaacttcaacagagatgcgcgcgctctgtagatgctatcg	2580
Db	2521	tgcttaattgtcttctgtgtccaaacttcaacagagatgcgcgcgctctgtagatgctatcg	2580
QY	2581	cggaatgagatagaatgtgcgaagtctacagctctgggtgtgtgagagacactgtgtagagcg	2640
Db	2581	cggaatgagatagaatgtgcgaagtctacagctctgggtgtgtgagagacactgtgtagagcg	2640
QY	2641	atcagaagacgttacaagcgctgtgcccccaacagctgtctagaaaaaagctcccttgagc	2700
Db	2641	atcagaagacgttacaagcgctgtgcccccaacagctgtctagaaaaaagctcccttgagc	2700
QY	2701	aaccaagtcctatagagagaaactgaaaaagactaaagtgtctagaaactgtagatgccaagct	2760
Db	2701	aaccaagtcctatagagagaaactgaaaaagactaaagtgtctagaaactgtagatgccaagct	2760
QY	2761	cggaagacattcttcgaagacgtgcgcgctcctctgtagaaacttccagctcaacaacaa	2820
Db	2761	cggaagacattcttcgaagacgtgcgcgctcctctgtagaaacttccagctcaacaacaa	2820
QY	2821	cagaacaaccaaaagcagcggttcaaaaagagcagaaccacacagtcagtggttgaaact	2880
Db	2821	cagaacaaccaaaagcagcggttcaaaaagagcagaaccacacagtcagtggttgaaact	2880
QY	2881	cctcccttggctcagtcgaacttaattgttccagacacatcagcccttgttcctctg	2940
Db	2881	cctcccttggctcagtcgaacttaattgttccagacacatcagcccttgttcctctg	2940
QY	2941	ccccgtctgccagatattcttaagacagaccccgagcatgtgtccctcgtaaaatc	3000
Db	2941	ccccgtctgccagatattcttaagacagaccccgagcatgtgtccctcgtaaaatc	3000
QY	3001	cttcgcgactcctcagacacagcgcaagttctctctacaattccagagaactgctctg	3060
Db	3001	cttcgcgactcctcagacacagcgcaagttctctctacaattccagagaactgctctg	3060

QY	3061	aaacacgagacttcagacacagctctccccaagtcttccactcaagtcaagaaccccccactcca	3120
Db	3061	aaacacgagacttcagacacagctctccccaagtcttccactcaagtcaagaaccccccactcca	3120
QY	3121	gtaacatacacagcgccaagaacatcccgaccggttccggcgagctacagaacaaactaaggg	3180
Db	3121	gtaacatacacagcgccaagaacatcccgaccggttccggcgagctacagaacaaactaaggg	3180
QY	3181	acgccacaanaaagtagcatgaacttgaattcgtggcagttgcttccaggtgtgacgaacagct	3240
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QY	3241	ttggcgcgcgcgccgacaaagttggcaacgcgcgtcatataccagagacgaagacagttgtccagc	3300
Db	3241	ttggcgcgcgcgccgacaaagttggcaacgcgcgtcatataccagagacgaagacagttgtccagc	3300
QY	3301	cgtgtgagagacaaagtgacaggttaagaattgaaacacacagagctcaactccagcatcgagagac	3360
Db	3301	cgtgtgagagacaaagtgacaggttaagaattgaaacacacagagctcaactccagcatcgagagac	3360
QY	3361	ttcttgaagcatccatctccttcaagtgtacacagacagctacttcaagtccgaatcgccg	3420
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QY	3421	tcctcttcocggaaagacgcaaaaatgacagacactcaaaagacagctcatataatc	3480
Db	3421	tcctcttcocggaaagacgcaaaaatgacagacactcaaaagacagctcatataatc	3480
QY	3481	aaaagtgcacaaaagaaatgagaaagcttgaagagagagagctttagcgatcgcacatgcgca	3540
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QY	3541	tgctcagcgtctcaggaatgcctcccccacgcgtccctcaagctcaggttgaaaatgtgagagag	3600
Db	3541	tgctcagcgtctcaggaatgcctcccccacgcgtccctcaagctcaggttgaaaatgtgagagag	3600
QY	3601	atattatcatcatcagcagagacacacagaaactctccagagacatatccaaaggaaac	3660
Db	3601	atattatcatcatcagcagagacacacagaaactctccagagacatatccaaaggaaac	3660
QY	3661	agccttacagagaagacgcttgagctgaaagccagacagatagcctcggaacattt	3720
Db	3661	agccttacagagaagacgcttgagctgaaagccagacagatagcctcggaacattt	3720
QY	3721	cttctcgtttacaaagacagagatgtgaggagactggaaacttaatgtgtgtgaaaacgggtga	3780
Db	3721	cttctcgtttacaaagacagagatgtgaggagactggaaacttaatgtgtgtgaaaacgggtga	3780
QY	3781	cgtacgttcagaaacacatctcctcgagcaggaagaggtgtgtgaaaacgcttgaggagagaga	3840
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QY	3841	tcocgagatgagtgcactcaacatccaaacatccacoggaatgcctgggggcccagctgcg	3900
Db	3841	tcocgagatgagtgcactcaacatccaaacatccacoggaatgcctgggggcccagctgcg	3900
QY	3901	agaaagagcaactacaaactcttcattgtgagtgcgggagagatctgtgtccacccct	3960
Db	3901	agaaagagcaactacaaactcttcattgtgagtgcgggagagatctgtgtccacccct	3960
QY	3961	tgaataaatacagagagcttccaagagctcagctcgaatcaatacactagacagttactgc	4020
Db	3961	tgaataaatacagagagcttccaagagctcagctcgaatcaatacactagacagttactgc	4020
QY	4021	gtggccttccctatctcagagaaacagatcatccaagagacgttcaaaagtgcacaac	4080
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QY	4081	tgctcatgaacgacacgggtcagaggtcaggaattgcagagacttggagctgtgtccaggt	4140
Db	4081	tgctcatgaacgacacgggtcagaggtcaggaattgcagagacttggagctgtgtccaggt	4140

QY 4141 tggcatcaaaagaaacgggtgagagagatctccaggagacttactggtggacaattgcat 4200
 DB 4141 tggcatcaaaagaaacgggtgagagagatctccaggagacttactggtggacaattgcat 4200
 QY 4201 tcatggtcgtcgttgaagtcctaaagagtcagcaagatggttagagagtcgtgatatgagatg 4260
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 QY 5161 ttaactatgactccttaagacttccaggtcttaaggtcttaactcctattagacacttactat 5220
 DB 5161 ttaactatgactccttaagacttccaggtcttaaggtcttaactcctattagacacttactat 5220
 QY 5221 gtaagcaaatgctacaaaaa 5253

DB 5221 gtaagcaaatgctacaaaaa 5253
 |||||
 RESULT 3
 AA225069
 ID AA225069 standard: cDNA; 3911 BP.
 XX
 AC AA225069;
 XX
 DT 09-DEC-1999 (first entry)
 XX
 DE Human MEK1 nucleotide sequence.
 XX
 KW MEK1; MEK2; MEK3; mitogen-activated protein kinase; MAPK; ERK;
 KW extracellular regulated kinase; signal transduction; regulation;
 KW MAPK/ERK; MEK; MKK; inflammation; cellular proliferation;
 KW differentiation; development; cell death; ss.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT CDS 3..3911
 FT /*tag= a
 FT /*product= "MEK1"
 XX
 PN W09947686-A2.
 XX
 PD 23-SEP-1999.
 XX
 PF 15-MAR-1999; 99WO-US05556.
 XX
 PR 16-MAR-1998; 98US-0078153.
 PR 04-SEP-1998; 98US-0099165.
 XX
 PA (CADU-) CADUS PHARM CORP.
 XX
 PI Johnson GL.
 XX
 DR WPI: 1999-571843/48.
 DR P-PSDB: AAV42104.
 XX
 PT New human MEK polynucleotides and polypeptides, used for regulating
 PT signal transduction in cells -
 PS Claim 2: Fig 1; 159pp; English.
 PS
 CC The present sequence encodes human mitogen-activated protein kinase/
 CC extracellular response kinase (MAPK/ERK) kinase kinase (MEKK),
 CC specifically designated MEKK1. The MEKK proteins are used to modulate
 CC and regulate signal transduction in cells, as well as for regulation of
 CC gene transcription in a cell encoding MEKK, where the cell is involved
 CC in inflammation, regulation of cellular proliferation and
 CC differentiation, regulation of development, regulation of cell death or
 CC regulation of inflammation. They are also used to prepare antibodies.
 CC MEK polynucleotides can be used to produce the protein recombinantly
 CC and as a source of probes and primers.
 XX
 SQ Sequence 3911 BP; 1058 A; 973 C; 975 G; 905 T; 0 other;
 Query Match 67.5%; Score 3547.6; DB 20; Length 3911;
 Best Local Similarity 94.3%; Pred. No. 0; Mismatches 219; Indels 3; Gaps 1;
 Matches 3692; Conservative 0;
 QY 583 cggcctggaagcagagtggttggaagaggaacagagagcctgtgtgtggaagc 642
 DB 1 cggcctggaagcagagtggttggaagaggaatagagggcctgtgtgtggaagc 60
 QY 643 caatcccttaagagagatgactggaatgaataactggcagctgagcccaaggag 702
 DB 61 caatccagtaagagagatgactggaatgaataactgagcagctgagctccagag 120

QY	703	aggcgcaagcaggtctccgctcgcacacagcccccaaggcgccgaagaccatctccctgcga	762
Db	121	aggtccaaagcagcagcggtctctccacagcttcccaaaaggccgacgcagctctctccctgcga	180
QY	763	gctccgcgtcagggcgctctcgtctgaagccggaaatcccccaaggatctaaacgcgaagcagatc	822
Db	161	actcccacatcagctcgcgaacagctgaatactcaaaatctccaaaggatgaagaaataaagatctc	240
QY	823	ccccggtgccttcccaagatctgcgaagaatcaacacaccccgaagagcccatataccggatg	882
Db	241	ccccagctgccttccagatgctgcgaatcaacacaccccgaagagcccttccacagatg	300
QY	863	gcttctcccccgtaaagcccacagagagacgcagccgcgcgtgtaacaaagtatgtagacca	942
Db	301	gcttctccaccaataagaccctgcgaggaacaaaccgcgcgtgttaacaaagtatgtagccgcca	360
QY	943	ggctctaccctcgcgcacacataagaaacccaaccttccctcgattgtagaggaaacatccag	1002
Db	361	gactgtactctcgcgcacacataagaaacccaaccttccctcgattgtagaggaaacacggcag	420
QY	1003	acaaataaataccgggtgttctattctggtgcacaagaacatcgcagctgtggcgtgtagatctc	1062
Db	421	acaaataaataccgggtgttctattctggtgcctcagaacatcgcagctgtgtagacatctc	480
QY	1063	gtattccacctctgttctgcatcgtccgcgggtgttcaagctagaacccctcgaacccatgt	1122
Db	481	gtattccatctgcattctgtgattgctccgggtgttctaaactagaacaccttcaagcccaatgt	540
QY	1123	tatgtagaanaaactttaaaaattccgaagctgtagaggtgtgttcccaagaataccacagta	1182
Db	541	tatgtagaanaaactttaaaaatttggaggttggaggtgtgttccagaaatcatcacagta	600
QY	1183	ggcgtagctcgcgaagatcaaaagctccatccccggagaacacacalccagaagttgtgttcacga	1242
Db	601	ggcgtagctcgaagatcaaaagctccatctcgttaacacacatccagaagttgtgttcacga	660
QY	1243	tgtaaatcttccacaacactgtcatcgtcttagcacatccacatctagtctagaacaaacgca	1302
Db	661	tgtaaatcttccatacactgtcatcactcttagctactctactacatctagtctagaacaaacgca	720
QY	1303	tcaagatgaagagagacagatgctgtcccatcgcgtctgtgcgcagatcgcgtgcgtgcagga	1362
Db	721	tcaagatgaagagagacagatgctgtccctattgcgtctgtgcgcagatcgcgtgcgtgcagga	780
QY	1363	gctctgactgtgtgtgaagaatgctcgcgcgcagagaacagcttgcaacacatgtatgtccact	1422
Db	781	gtcttaacagctgtgtgaagaagcgcgcgcgcagagaacagcttgcaacacatgtatgtccact	840
QY	1423	gggcgcgaagagctgtagaagaataagagagcctttaatatgtcccttgtagactaaagt	1482
Db	841	gggcgcgaagagctgtagaagaataagagaaacctttaatatgtcccttgtagactaaagt	900
QY	1483	ggagatccccaacttcttaagcgcataagatgatacaagccccgtgtgaatcccccgcctccc	1542
Db	901	ggagatccccaacttcttaagcgcacacagagttgttcaagatccctgttgatcccttctccc	960
QY	1543	tgcgagctgtccacacagacatccctcccgcgcagagccgcgtgtgcgcgatacagcagagga	1602
Db	961	tgcagagctgcacacagcagcaaacccgttaacagcagcagccttggctgtgatca---cgaaaga	1017
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QY	1806	aggaactggaaaactctgtagagctgcgcagcttgtagggagcagcttlaagcgcgggagagccagcg	1865
DB	1747	aggaactggaaaactctgtagggcagcagtggaagcagcccgagtgtagggagagccacagtg	1806
QY	1866	tcctccacgcccagcatctcaaggagatgtgtgtagggcgtgtcgtcagtgctcgtctata	1925
DB	1807	tcctccacgagcagatctctcaaggagatgtgtgtagggcagctcgtcagcgtctcgtctaatg	1866
QY	1926	gtcttgagctgaaccctctctcaagaagtgaagtgtgcctttaaanaaatgttaggcagatg	1985
DB	1867	gtcttgagctgaaccctcgtctcaagaagtgaagtgtgcctttaaanaaatgttaggcagatg	1926
QY	1986	ctgtgatacaactctgtccacagctcgtgcagaaagaaatcaaaacttcagagactctccag	2045
DB	1927	ctgtgatacaactctgtccacagctttagcggaaagaaatcaaaacttcagagactctccag	1986
QY	2046	ccaagtgttagacaactatcctcttgcagaagtgtgcagatgtccacaacagcgcgcagatctcagt	2105
DB	1987	ccaagtgttagacaactatcctctctagttcaaaatgtgcagatgtccacatagcgcgcacaagtctcagt	2046

QY	2106	tccatctctacagtcgtctgtaactctgcaaggccagccagagaaagctctgscggtctggagaga	2165
Db	2047	tccatctctacacactgtcttgtaactctgccaagggccagagcaagatctgtagctctggcaga	2106
QY	2166	gaataacttaaaccttggtccatccgggtgttggtggtctgaattacgtcttaagtgtgac	2225
Db	2107	gaataacttaaaagctggaaccatctggatctgtgtatgtgtgtgattatgctcttaaatgttact	2166
QY	2226	cttggaacccaagcttgtaatacaaaccttggcaagaactgctctgtgctgcctctgtctata	2285
Db	2167	cttggaacccaacactgatacaacaattggcagaactctctgscgcttctctata	2226
QY	2286	gacaggttgcctgttgtaattctctgtgtaattctataccataatttgcagtactgatagtc	2345
Db	2227	gataagactctgttgtaattctctgtcgtaattctataccataatttgcagtactgatagtc	2286
QY	2346	tcccaagcttgagccttcttgtaatacaggtataaagaagctgtctccctcttaactctggcc	2405
Db	2287	tcccaagcttgagcctcttgtaatacaggtataaagaagctgtctccctcttaactctgtgc	2346
QY	2406	ttgcaatccatctgaacaattcccaactcogatgtgttgcaagctctctccgagagataatctg	2465
Db	2347	ttgcaatccatctgaataatcccaactcogatgtgttgcaagctctccgaagaagactactgtg	2406
QY	2466	agcctctgcagagatggtgacgcgagtgccgcgtgtgttctccaagcttgtaaccaatgctc	2525
Db	2407	agctctgcagagatggtgtactactacagtaaccacatggttctccaacactgttagaatactg	2466
QY	2526	aaatgcttc---tgcctccaccaactctcaacagatgtagcggtctgtagtgctatctgcg	2582
Db	2467	aaatgcttccagtgcttctccatcaactctcaacagatgtagcggtctgtagtgctatctgca	2526
QY	2583	gattgagtagaagaattgcgcgagtgcatccagctctgtgttgtagagcaactctgtagtgagcat	2642
Db	2527	gattgagtagtgaagaattgcgcgaagtcacatccagctctgtgtgttgtagaagaactcttaacaagcaaa	2586
QY	2643	caaggaacagc-----ttacaaggcgtgtgcccaccagctgtcttagaanaacagc-----	2690
Db	2587	caacacacagacttcttgacgatactctgtcccaacaactcttggaanaacagagagaca	2646
QY	2691	----tcccttgagcacacagcttccatagagaaanaacttggaaaaggacaaagtgtctagaga	2747
Db	2647	gttccctcttgagtgacacagcttctcttagagaaaacttggaaaaggatattatgtgtctacaaa	2706
QY	2748	ctgagtgccagctgcgagagcatctcttgacagacttggccggtcgtctgttagagattccccc	2807
Db	2707	ctgagtgccagctgcagagagcaattctctgagaagacttggccagagatttcaagttagaccccttcc	2766
QY	2808	agct-----caacaacaacagagaacaacaacaaagccagcgtgttcaacaacaaa	2852
Db	2767	agctcaacaacaacaacaacaacaacaacagagagaaagccaagtgttcaacaacaaa	2826
QY	2853	ggcagaccaccaagctcagtggttctgaactcctcccttctgc---tcaatgtcctaataatg	2909
Db	2827	ggcagaccaccaagctcagtggttctgaactcctcctcttactatctcaatctcccaattaatg	2886
QY	2910	ttcccgagcacactcagccctctgtctctctgcgcgcgctgtcc-----ca	2954
Db	2887	tttccagccttctgaacacccctctctctcttcaaccccatctgttacaagctgtgcactgtcaaa	2946
QY	2955	gatatcttcttagacacagaccacagcaatctgttctccctgcgaataatccttccgaatctctcc	3014
Db	2947	gatatcttcttagacatagactcttagggatctcatctccctgcgaataatccttctcgatctccct	3006
QY	3015	caagacacgcgcgaagtctctctcttacaattccocagaagaaactgtctctgaacacgcgaactca	3074
Db	3007	caaaacacagcgcaagttctctcttacaattccocagaagaaactgtctctgaacacaaagactca	3066
QY	3075	gaacaggtctcccgagcttcaactcagaatgaagcccccaacccctcctcagtaataatacagag	3134
Db	3067	gataaactcttcccgagcttcttcaactcagaatgaagcccccttgccttcagtaataatacacaag	3126
QY	3135	cbaaagccatctccgacccgttctccggtagtatacaagcaaacacttagaggagcgcacacaagaat	3194

us-09-403-075-3.png

Db	3127	ccaaagccatctccgacccctacccagcgtaatacaagtaaacacgagggatccctccaaaat	3186
OY	3195	agatacgacatctgatacttgagcagctgctcccaagctgtagacgaagctctggcgcgcggc	3254
Db	3187	agcatgacactctgatacttgagcagctgctcccaagctgtagacagctcttgcttgagcgc	3246
OY	3255	aacagctgacacgcctgatacccaagcagagacgaagtcgtccagccggctgtagaacaag	3314
Db	3247	aatgtgttaattctgctgttatacccgtagagacagctgtcccccagtagagagaaa	3306
OY	3315	tgacagcttagatctggaacacccagactcacaactcccgacatcgaggaactcttgaagatcc	3374
Db	3307	tgcatgattagctgccaatacagagctcccaactccagatattgtagagccctcttgagacatc	3366
OY	3375	atgccttcaagctgacacgacagatccaacttccaagtcgagagtcgcgcgtctctcccgaa	3434
Db	3367	atgccttcaagctgatacaacagtaactcttaagtagaagatgtgctgtccgtctcccgaa	3426
OY	3435	aagcccggaataatgagacacactcaacaaagacgacgtccaatcaataacaaagtgaagaa	3494
Db	3427	aagctcggaataatgagatactacactcaacaaagatgtagatccaataacaaagtgaagag	3486
OY	3495	aagatggaagctgaaagagagagagcttgtagatccatgcacgtgcgagatgtagcgtctcag	3554
Db	3487	aagatggaagctgaaagagagagagcttgtagatccatgcacgtgcgagatgtagcgtctcag	3546
OY	3555	gagccctccccaactgctccctcgaagctgagctggaagaaatggaagaatatactacat	3614
Db	3547	gtagccctccccaactgctccctcgaagctgagctggaagaaatggaagaatatactacat	3606
OY	3615	caagcagacacacccagagaacactccacaggaatacccaagcgaacacagccttaacagaa	3674
Db	3607	caacacgagatacacacagagactctacacaggaacatacccaagcgaacacacogtatagaa	3666
OY	3675	gacgtctgagctgctgaaagcgacagacagatgaagccctcgagagcatttcttcgttccaa	3734
Db	3667	gacactgagatgctgaaagctgcaacagataagccttgtagacattctctctcttccacag	3726
OY	3735	gcaacagatctgtaggagactgagacatttaatgagctgtgaaacaggtgtaagttagtcaaac	3794
Db	3727	gtccaaagatgtaggagactgagacatttaatgagctgtgaaacaggtgtaagttagtcaaac	3786
OY	3795	acatctcccgagcagagagagctgtagaagcgttgaggaagagatcccgatatactggt	3854
Db	3787	acatctctcgagcagagagagctgtagaagcgttgaggaagagatataagaatgtagagc	3846
OY	3865	caactcaacataccaacatactccgagatgctgtaggcccagctgagaaagacacacac	3914
Db	3847	catctgataataccaacatactgtagatgcttgtagaacccagctgtagaagagcaattac	3906
OY	3915	aacctctcatgagatgtagatgtagcgagagatctgtagctcaacctctgagtaataatgga	3974
Db	3907	aatcctctcatgagatgtagatgtagcgagagatctgtagctcaacctctgagtaataatgga	3966
OY	3975	gcttccaagagatagctgctcatatacactatgagcagctttacagctgtgaccttccat	4034
Db	3967	gcttccaagagatagctgctcatatacactatgagcagctttacatccgttgagacttccat	4026
OY	4035	ctccacgagaaacccagatcatctacacagagagctgcaaaagtgcacaacctgctatgtagagc	4094
Db	4027	ctccacgagaaacccagatcatctacacagagatgcaaaagtgcacaacctgctatgtagagc	4086
OY	4095	acccgctcaagagctgagaatgtcagactttggagctgctgcgcagagcttgatcatcaaaaga	4154
Db	4087	acccgctcaagagctgagaatgtcagactttggagctgctgcgcagagcttgatcatcaaaaga	4146
OY	4155	accggtgacagagatctccaagagacagttactctgggacaaatgtcatctatgtagcgttag	4214
Db	4147	actgtgacagagatctccaagagacaaatctactctgggacaaatgtcatctatgtagcgttag	4206
OY	4215	gtccaaagctcagcagatgtagagagctgtgatagtataggagctgttgctgtgcgcat	4274

[illegible]

XX AA079325 encodes AAR66029 the mammalian MEK kinase (MEK 1), other
CC unique mammalian MEK kinases identified by PCR are described in
CC AAR66030 (MEK 2), AAR66031 (MEK 3) and AAR66032 (MEK 4). MEK is an
CC activator, independent of Raf protein, of mitogen-activated protein
CC kinases (MAPK). Inactivation of MEK can be used in the treatment
CC of some cancers, autoimmune diseases and allergies, while
CC stimulation can promote wound healing. MEK can also be used to
CC alleviate cellular atrophy in Parkinson's or Alzheimer's by acting
CC as a neurotrophic growth factor, and to screen for oncogenes and
CC tumour agents.

XX
Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;

Query Match 61.88; Score 3245.8; DB 15; Length 3260;
Best local similarity 99.98; Pred. No. 0;
Matches 3258; Conservative 0; Mismatches 2; Indels 1; Gaps 1;

QY 1992 tacaactcttcacacagctctgcagaaagaatcaacttcagagactctccgcgcagtt 2051
Db 1 tacactcttcacacagctctgcagaaagaatcaacttcagagactctccgcgcagtt 60
QY 2052 gtgagacatctctgtcaagtggtgagagatgcacacagcgcagacagctgtccata 2111
Db 61 gtgagacatctctgtcaagtggtgagagatgcacacagcgcagacagctgtccata 119
QY 2112 tctcaagctgcggaactctgtaagggccaagcagagagcgtgttgagagaaata 2171
Db 120 tctcaagctgcggaactctgtaagggccaagcagagagcgtgttgagagaaata 179
QY 2172 cttaaaagctgtgcacatcggtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 2231
Db 180 cttaaaagctgtgcacatcggtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 239
QY 2232 aaccaagctgtaatacaaacactgtgcagaagactgtggtgcgcctctgtctatagaca 2291
Db 240 aaccaagctgtaatacaaacactgtgcagaagactgtggtgcgcctctgtctatagaca 299
QY 2292 ttgctgtgtggaattccgcgtgaattctatctatctatgttcagacagctgtccaca 2351
Db 300 ttgctgtgtggaattccgcgtgaattctatctatctatgttcagacagctgtccaca 359
QY 2352 gctcagcctgtgtaatactgtaagaagactgtcctcccttaacttgccttgcaa 2411
Db 360 gctcagcctgtgtgtaatactgtaagaagactgtcctcccttaacttgccttgcaa 419
QY 2412 tccattgacaattccacactgcagtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 2471
Db 420 tccattgacaattccacactgcagtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 479
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QY 2532 tctgtgtccacacacttcacacagatgctgcgcgtgtgtgtgtgtgtgtgtgtgtgtgt 2591
Db 540 tctgtgtccacacacttcacacagatgctgcgcgtgtgtgtgtgtgtgtgtgtgtgtgt 599
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QY 2712 agagagaaactgtgaaagagactaagtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 2771
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QY 2772 tctgacagactgtgcgcgcgt 2831

Db 780 tctgacagactgtgcgcgcgt 839
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Db 900 tctcatgtctaatatgttctccacagacacatcagccctgttctctgcgcgcgtgtgtc 959
QY 2952 ccagatatttctaagcacagaccacagcattgttctccctgcaaatatccttcgcacatc 3011
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QY 3012 cctcagacacagcgaagtctctcttaaatctccagagagactgtctgcgaacccgcagac 3071
Db 1020 cctcagacacagcgaagtctctcttaaatctccagagagactgtctgcgaacccgcagac 1079
QY 3072 tcaagcagctctccacagcttcaactcagtcagagaccccccacccctccagtaacatacac 3131
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QY 3192 agtgacatgacactgtgactgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 3251
Db 1200 agtgacatgacactgtgactgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 1259
QY 3252 ggcacaagctgtgcacacgcgttataccacagcagagagagtgatccacgcgtgtgagagac 3311
Db 1260 ggcacaagctgtgcacacgcgttataccacagcagagagagtgatccacgcgtgtgagagac 1319
QY 3312 aagtgcaggttaagt 3371
Db 1320 aagtgcaggttaagt 1379
QY 3372 tccatgtgttaagt 3431
Db 1380 tccatgtgttaagt 1439
QY 3432 gaaagagcgcgaataatgagac 3491
Db 1440 gaaagagcgcgaataatgagac 1499
QY 3492 gaaagagtggaagctgtgaagagagagctttagcgtatcgcacatgtgtgtgtgtgtgt 3551
Db 1500 gaaagagtggaagctgtgaagagagagctttagcgtatcgcacatgtgtgtgtgtgtgt 1559
QY 3552 cagagatgcctcccccacatctgtccctcagctgtgaggtgtgaaatgtgagagatatcatc 3611
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QY 3612 attcagcagagac 3671
Db 1620 attcagcagagac 1679
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QY 3732 caagcagagagatgt 3791
Db 1740 caagcagagagatgt 1799
QY 3792 aacacatctccgcagcagagagagtggtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 3851
Db 1800 aacacatctccgcagcagagagagtggtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 1859
QY 3852 ggtcactctcaacatccacaacatcatccgagctgtgtgtgtgtgtgtgtgtgtgtgtgtgt 3911
Db 1860 ggtcactctcaacatccacaacatcatccgagctgtgtgtgtgtgtgtgtgtgtgtgtgtgt 1919

OY	4992	ctgacgcgaataatgtactcgttgcattatatttglttttaagtattgtactcga	5051
Db	3000	ctggaccggaataatgtactcgttcgaattattttgtgtttttaatgtattgtactcga	3059
OY	5052	atttaataaacgtctactcgttgtttatttcacaagttctactacctaaggctgcataaga	5111
Db	3060	attgtaataataagctactcgttgtttatttcacaagttctactacctaaggctgcataaga	3119
OY	5112	ttttctctacccaaaatctactcctccaagaatgnaatttcaagcgctgtgactatgact	5171
Db	3120	ttttctctacccaaaatctactcctccaagaatgnaatttcaagcgctgtgactatgact	3179
OY	5172	cctaagacctccaaaggcttaaaggcctaaccctcatltagcaccttactaatgaagcaaatg	5231
Db	3180	cctaagacctccaaaggcttaaaggcctaaccctcatltagcaccttactaatgaagcaaatg	3239
OY	5232	ctacaaaaaaaataaaaaa	5252
Db	3240	ctacaaaaaaaataaaaaa	3260
 RESULT 7 AAV22676 standard; cDNA; 3260 BP.			
AC	AAV22676;		
XX			
DT	17-JUL-1998	(first entry)	
DE	cDNA encoding a murine mitogen-activated protein kinase kinase (MAPKK).		
KM	Mitogen-activated protein kinase kinase; MAPKK; mouse;		
KW	extracellular signal-regulated kinase kinase; MEKK; regulation;		
KW	signal transduction; raf-independent arm; screening assay; treatment;		
KW	disorder; cancer; autoimmune disease; inflammation; allergy;		
KW	neural disease; Parkinson's disease; Alzheimer's disease; ds.		
XX			
OS	Mus sp.		
XX			
FH	Key	Location/Qualifiers	
FT	5'UTR	1..485	
FT		/*tag= a	
FT	CDS	486..2504	
FT		/*tag= b	
FT	3'UTR	2502..3260	
FT		/*tag= c	
XX			
PN	US5753446-A.		
XX			
PD	19-MAY-1998.		
XX			
PF	06-JUN-1995;	95US-0472934.	
XX			
PR	15-APR-1993;	93US-0049254.	
PR	14-OCT-1994;	94US-0323460.	
PR	21-FEB-1995;	95US-0354516.	
PR	12-MAY-1995;	95US-0440421.	
PA	(NAME-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.		
XX			
P1	Johnson GL;		
DR	WPI; 1998-311395/27.		
DR	P-PSDB; AAW56157.		
XX			
PT	Screening assay for regulators of MEK signal transduction - using		
PT	mammalian MEK polypeptide		
PS	Claim 6; Columns 29-34; 48pp; English.		
CC	The present sequence encodes a murine mitogen-activated protein kinase		
CC	kinase (MAPKK) (also known as extracellular signal-regulated kinase		
CC	kinase (MEKK)). The protein, which is serine/threonine kinase is capable		

Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;

Matches 3258; Conservative 0; Mismatches 2; Indels 1; Gaps 1;

QY 2772 tctgacagactggccgcytctctgtagacttccagctcaacaacaagaacaacca 2831

Db 1860 ggtacacccaacccaacatacatccgtagctggtggccacgtgtggaagaagcaac 1919
 Qy 3912 tacaaccttattgagtgagtcgaggaagatctgtggtcacctcttgataaac 3971
 Db 1920 tacaaccttattgagtgagtcgaggaagatctgtggtcacctcttgataaac 1979
 Qy 3972 ggaagttcaagaagtcagtcatacttaactacactgagactgtctggtggtctcc 4031
 Db 1980 ggaagttcaagaagtcagtcatacttaactacactgagactgtctggtggtctcc 2039
 Qy 4032 tatctccagagaaacagataatcacaagagcgtcaaaaggctgcaacctgtcatgac 4091
 Db 2040 tatctccagagaaacagataatcacaagagcgtcaaaaggctgcaacctgtcatgac 2099
 Qy 4092 agcaacggctcagagagctgaagaattgcaactttggaagctgtgccaaggttggcatcaaa 4151
 Db 2100 agcaacggctcagagagctgaagaattgcaactttggaagctgtgccaaggttggcatcaaa 2159
 Qy 4152 ggaacccggtcagagagagttccagggagacttaactgaggaacattgtcatatggcgct 4211
 Db 2160 ggaacccggtcagagagagttccagggagacttaactgaggaacattgtcatatggcgct 2219
 Qy 4212 gaagttccaaagagtcagcagatgtagtagagagctgtgtagtgaagtggtgtgctgcgc 4271
 Db 2220 gaagttccaaagagtcagcagatgtagtagagagctgtgtagtgaagtggtgtgctgcgc 2279
 Qy 4272 attatagaagatgctgtgtgcaaaacccactgtgaattgcaagaacacccccaatcatctc 4331
 Db 2280 attatagaagatgctgtgtgcaaaacccactgtgaattgcaagaacacccccaatcatctc 2339
 Qy 4332 gacctgataattgaagatgtgtagcgcactactgacacgctccatcccgctacacactgtcc 4391
 Db 2340 gacctgataattgaagatgtgtagcgcactactgacacgctccatcccgctacacactgtcc 2399
 Qy 4392 ccgggtctgcgcgcgcgtgtgcgtgtgcgtgtgtaacttaagctcagaagccggtcgcgc 4451
 Db 2400 ccgggtctgcgcgcgcgtgtgcgtgtgcgtgtgtaacttaagctcagaagccggtcgcgc 2459
 Qy 4452 tccagagagctgtctgaacaatccggtcttcgtagtccacgctgtgtagtattgttcaatc 4511
 Db 2460 tccagagagctgtctgaacaatccggtcttcgtagtccacgctgtgtagtattgttcaatc 2519
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 Db 2520 agctctaaigtgagacagagatatcacaacgggagagagaaagaaactgtgtggcgaccca 2579
 Qy 4572 tgcgcgtcaaacgcagccctcagccactgacagccagagaaacggggcgagcgagacgcg 4631
 Db 2580 tgcgcgtcaaacgcagccctcagccactgacagccagagaaacggggcgagcgagacgcg 2639
 Qy 4632 taacctaaagctgtgattgacaaatcatctgacctgttaactaaagctcga tatgcaacatac 4691
 Db 2640 taacctaaagctgtgattgacaaatcatctgacctgttaactaaagctcga tatgcaacatac 2699
 Qy 4692 cagctcgtcagaagaactgtgacacacgctgtccttcaagagagctgtgttgaggagacagaa 4751
 Db 2700 cagctcgtcagaagaactgtgacacacgctgtccttcaagagagctgtgttgaggagacagaa 2759
 Qy 4752 ggcgcgtgagctgtgacatgaacagaaagacataaattatatttttggagacactttt 4811
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 Qy 4812 cagctaaatagatattacacgtgacatcaacatgcccgcacacatttcaaacatcagactgtc 4871
 Db 2820 cagctaaatagatattacacgtgacatcaacatgcccgcacacatttcaaacatcagactgtc 2879
 Qy 4872 ccagatgtcaaatcacaactgtgtgagattgttgcaagttccctcagctgtgtagt 4931
 Db 2880 ccagatgtcaaatcacaactgtgtgagattgttgcaagttccctcagctgtgtagt 2939
 Qy 4932 tgtgtgtgtttgtttcgtgacgaaatgtgagtgaaatcttatttcttggatcaaa 4991
 Db 2940 tgtgtgtgtttgtttcgtgacgaaatgtgagtgaaatcttatttcttggatcaaa 2999

Qy 4992 ctgagctgaataattgtactgtgttaattatttttggttttaatgttaattgtgtactcga 5051
 Db 3000 ctgagctgaataattgtactgtgttaattatttttggttttaatgttaattgtgtactcga 3059
 Qy 5052 attttaaataacgcttactactgtgttttaattccagtttactactccaggtgtcctataga 5111
 Db 3060 attttaaataacgcttactactgtgttttaattccagtttactactccaggtgtcctataga 3119
 Qy 5112 ttttctcttaccacaaattcaactctcagaatgaattctcagtgctgtgtgactatgact 5171
 Db 3120 ttttctcttaccacaaattcaactctcagaatgaattctcagtgctgtgtgactatgact 3179
 Qy 5172 cctaagacttcacaggtcctaagggctaacctccattagacccttactatgttaagcaaatg 5231
 Db 3180 cctaagacttcacaggtcctaagggctaacctccattagacccttactatgttaagcaaatg 3239
 Qy 5232 ctacaaaaaataaaaaa 5252
 Db 3240 ctacaaaaaataaaaaa 3260

RESULT 8

AAZ31877
ID AAZ31877 standard; cDNA; 3260 BP.

AAZ31877;
AC

24-JAN-2000 (first entry)
DT

Mitogen ERK kinase, MEK-1, coding sequence.
DE

Mitogen ERK kinase; MEK; MEK-1; neurological disorder; cancer;
KW extracellular signal-regulated kinase; inflammation; autoimmune disease;
allergic reaction; hormone related disease; therapy; ds.

Mus sp.
OS

US5981265-A.
PN

09-NOV-1999.
PD

05-JUN-1995; 95US-0461146.
PF

15-APR-1993; 93US-0049254.
PR

12-MAY-1995; 95US-0440421.
PR

15-APR-1994; 94WO-US04178.
PR

14-OCT-1994; 94US-0323460.
PR

14-OCT-1994; 94WO-US11690.
PR

28-NOV-1994; 94US-0345516.
PR

(NAE-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
PA

Johnson GL;
PI

WPI; 1999-633328/54.
PI

P-PSDB; AAY43318.
PI

Regulating mitogen extracellular signal-regulated kinase protein
activity, useful for the treatment of cancer, neurological diseases and
autoimmune diseases -
PT

Claim 1; Column 49-54; 94pp; English.
PS.

This sequence encodes the mitogen ERK (extracellular signal-regulated
kinase) kinase kinase-1 (MEK-1). The invention relates to a method of
regulating MEK protein activity in a fungal cell by transforming or
transfecting the cell with a nucleic acid encoding an MEK protein. The
MEK protein is useful for treating cancer, inflammation, neurological
disorders, autoimmune diseases, allergic reactions, and hormone related
diseases.

Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;

Query Match 61.8%; Score 3245.8; DB 20; Length 3260;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 3258; Conservative 0; Mismatches 2; Indels 1; Gaps 1;

QY 1992 tacactcttgcacagctctgacgaagaatcaactcagaactcctccgacgtt 2051
Db 1 tacactccttgcacagctctgacgaagaatcaactcagaactcctccgacgtt 60
QY 2052 gttagaacatacctctgtcaagtgtgcagatgacaaacgcgcacagtcagctgtccata 2111
Db 61 gttagaacatacctctgtcaagtgtgcagat-ccaacagccgcacagtcagctgtccata 119
QY 2112 tctacagctgtgcacactctgcgaagggcgaagcagagagctgtgaggttggagaagaata 2171
Db 120 tctacagctgtgcagactctgcgaagggcgaagcagagagctgtgaggttggagaagaata 179
QY 2172 cttaaaagctgggtccatcaggggttgggtgtgcgattacgtcttaagtgtatcccttga 2231
Db 180 cttaaaagctgggtccatcaggggttgggtgtgcgattacgtcttaagtgtatcccttga 239
QY 2232 aaccaaacctgaatcaaaacacactgccaagacactgctgacgtctctgtcttatagacag 2291
Db 240 aaccaaacctgaatcaaaacacactgccaagacactgctgacgtctctgtcttatagacag 299
QY 2292 ttgctgttgaattctcctgtgaattctatccctacatactgtaactgtgtctcaaa 2351
Db 300 ttgctgttgaattctcctgtgaattctatccctacatactgtaactgtgtctcaaa 359
QY 2352 gctgagcctgttgaattcagaagtacaagaagctgtctctccctcttaaccttgccttgcaa 2411
Db 360 gctgagcctgttgaattcagaagtacaagaagctgtctctccctcttaaccttgccttgcaa 419
QY 2412 tccatttgaacaattcccaactcgaatggttgcgaagctctctcgcagagatatatcgagctct 2471
Db 420 tccatttgaacaattcccaactcgaatggttgcgaagctctctcgcagagatatatcgagctct 479
QY 2472 gccagagatgttgcacgcagctgacgtctgtgttcttccaaagctgtgtaaccatgtcttaagt 2531
Db 480 gccagagatgttgcacgcagctgacgtctgtgttcttccaaagctgtgtaaccatgtcttaagt 539
QY 2532 tctgtgttccaccccaactcaccaggaatgctgcgcgcgtctgaatgctatcgcagatagatga 2591
Db 540 tctgtgttccaccccaactcaccaggaatgctgcgcgcgtctgaatgctatcgcagatagatga 599
QY 2592 gaaattgcgcagagctcaatccagctgggtgtgtgcagagacactgtgagtgagcatcagagacag 2651
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QY 2652 ttacagagcgtgtgccccccacagcgtctcagaagaaagctcccttcagagcaacagtcacat 2711
Db 660 ttacagagcgtgtgccccccacagcgtctcagaagaaagctcccttcagagcaacagtcacat 719
QY 2712 agagagagaaactgcgaaaagactaaagtgtacagagactgaagtgcacagctcggagagacatt 2771
Db 720 agagagagaaactgcgaaaagactaaagtgtacagagactgaagtgcacagctcggagagacatt 779
QY 2772 tcttgcagagctgtgcccgggtctctctttaggacttcccaagctcaacaacaagaaacaaca 2831
Db 780 tcttgcagagctgtgcccgggtctctctttaggacttcccaagctcaacaacaagaaacaaca 839
QY 2832 aagccagcgttccaaacaagaagcagaccccaagctcagtttttgaactctccctcttg 2891
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QY 2892 tctcatgtcctaattaaagtctcccaagacacatcagcccttctcctcgcgcgtctgtc 2951
Db 900 tctcatgtcctaattaaagtctcccaagacacatcagcccttctcctcgcgcgtctgtc 959
QY 2952 ccaagatttctaagacagaagcccaagcatttgcctcgtcaaaatacattcgcagatc 3011
Db 960 ccaagatttctaagacagaagcccaagcatttgcctcgtcaaaatacattcgcagatc 1019

QY 3012 cctcagacacagcgcgaagtctctctacaaattccagaaggaaactgtctgaacaccgagac 3071
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QY 3072 tccagacagctctccccagcttcttcaactcagtcagaagccccacccctccagtaataaac 3131
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QY 3132 aggcacaaacccatcccgaccggttccggcagtlacaaagacactagggagacccaanaa 3191
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Db 1320 aagtgcaagttagatgtgacacacgcagctcaactccagatccagagacacttctgaagca 1379
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QY 3432 gaaaaagccgaanaaatagcacacacccacaaagacgcgtccaatccaatacacaagtgc 3491
Db 1440 gaaaaagccgaanaaatagcacacacccacaaagacgcgtccaatccaatacacaagtgc 1499
QY 3492 gaaagagtggaagctggaagaggaagagctttagcgatcgccatgtgcagtgct 3551
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QY 3552 cagagctgcctcccatcgtctccctcagctgtcaggtgtggaatgtgagaagatatatc 3611
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QY 3612 attcagcagacacacacgaactcttccaggaataacaaagacacagctctacaga 3671
Db 1620 attcagcagacacacacgaactcttccaggaataacaaagacacagctctacaga 1679
QY 3672 gaaagcgtctggtgtgtgaaagccagacagataagcctcggagcatttctccgttac 3731
Db 1680 gaaagcgtctggtgtgtgaaagccagacagataagcctcggagcatttctccgttac 1739
QY 3732 caagcagagatgtgtgagactggaactttaaigtctgtgaaacagctgacgtatagataga 3791
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Db 1800 aacacatctctcggacgagagaggtgtgtggaagcgttgcagggagagatccgagatg 1859
QY 3852 gttaccccaacccatccaacaatcatccgagtgttggggccacgtgtgcgagaagagcaac 3911
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QY 3972 ggaagcttcaagaggtgaagtcgtcatataactgaactgaagcagttactgtgcgttcc 4031
Db 1980 ggaagcttcaagaggtgaagtcgtcatataactgaactgaagcagttactgtgcgttcc 2039
QY 4032 tatctcagacagacacagatcttcaacagagcgttcaaaagtgcacacgtgcattgac 4091
Db 2040 tatctcagacagacacagatcttcaacagagcgttcaaaagtgcacacgtgcattgac 2099

```

QY 4092 agcaccggtcagaggttggaattgcaagcttgagagctgctccaggtgtgcatcaaaa 4151
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Db 2100 agcaccggtcagaggttggaattgcaagcttgagagctgctccaggtgtgcatcaaaa 2159
QY 4152 ggaaccggtcagagaggttcacagagagcttacttggggacaattgcatlcatgagcct 4211
    |||||||
Db 2160 ggaaccggtcagagaggttcacagagagcttacttggggacaattgcatlcatgagcct 2219
QY 4212 gaaggtcctaaaggttcagagaggttctgtagagagctgtgtagtggaggtgttgctgcgc 4271
    |||||||
Db 2220 gaaggtcctaaaggttcagagaggttctgtagagagctgtgtagtggaggtgttgctgcgc 2279
QY 4272 attatagaattgcttctgcaaaaaccacttggaaatgcagaaaaaacatccatcatctc 4331
    |||||||
Db 2280 attatagaattgcttctgcaaaaaccacttggaaatgcagaaaaaacatccatcatctc 2339
QY 4332 gacctgaatttaagattgtctagcgcaactactgcaaccgttccatccgtlcatcctgtcc 4391
    |||||||
Db 2340 gacctgaatttaagattgtctagcgcaactactgcaaccgttccatccgtlcatcctgtcc 2399
QY 4392 ccgaggtctgcgcgagctgtgcgcgtgtgctgttgaacttgaactcagagcctcagcgcctccg 4451
    |||||||
Db 2400 ccgaggtctgcgcgagctgtgcgcgtgtgctgttgaacttgaactcagagcctcagcgcctccg 2459
QY 4452 tccagagagctgctgcaaacatccggttctcgttaccacacgtgtgtagttaatgttcagatc 4511
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Db 2520 agctcctaagtgaagacagatgatacgcaaccggagagagaaaaaggaacttctggggcagcca 2579
QY 4572 tgcgcctaaccgagccctcagccactgcaagcagcaggaacggggcagcggggaaacgcg 4631
    |||||||
Db 2580 tgcgcctaaccgagccctcagccactgcaagcagcaggaacggggcagcggggaaacgcg 2639
QY 4632 taactaaagcatgtgattgacaacaaatcagactgttacttaagctcgtgatatgcagacatcta 4691
    |||||||
Db 2640 taactaaagcatgtgattgacaacaaatcagactgttacttaagctcgtgatatgcagacatcta 2699
QY 4692 cagctcgtcagaggaactcacacccgtgccttccacagagactgtcttgggggagcaagaa 4751
    |||||||
Db 2700 cagctcgtcagaggaactcacacccgtgccttccacagagactgtcttgggggagcaagaa 2759
QY 4752 ggcgagtgaggttgcagtgactaaagacagaagcataaattatttttggagcactttt 4811
    |||||||
Db 2760 ggcgagtgaggttgcagtgactaaagacagaagcataaattatttttggagcactttt 2819
QY 4812 cagctcaatcagatattacatgttacctacacagtgccggccacatttcaaacacagactgtc 4871
    |||||||
Db 2820 cagctcaatcagatattacatgttacctacacagtgccggccacatttcaaacacagactgtc 2879
QY 4872 ccagatgtcaagaatcacactgttctgagtttggttgcagcttccctcagcttgcgtgtaat 4931
    |||||||
Db 2880 ccagatgtcaagaatcacactgttctgagtttggttgcagcttccctcagcttgcgtgtaat 2939
QY 4932 tctggtgttcttcttcgagtgcaaatgtgagtgtaatatcttatttcttcttggatcaaa 4991
    |||||||
Db 2940 tctggtgttcttcttcgagtgcaaatgtgagtgtaatatcttatttcttcttggatcaaa 2999
QY 4992 cttggagctggaatttctacgttgtaatttttggtttttaatttcttcttggatctcga 5051
    |||||||
Db 3000 cttggagctggaatttctacgttgtaatttttggtttttaatttcttcttggatctcga 3059
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Db 3060 attgttaataaagctcactgtcttattccagtttctactaactcaaggtgtcctataga 3119
QY 5112 ttttttctacaaaagttcactctccagatgaataattctagctgtgtgtgtaatttact 5171
    |||||||
Db 3120 ttttttctacaaaagttcactctccagatgaataattctagctgtgtgtgtaatttact 3179
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Db 3180 cctaagactccagggcttaagagctaactcctatttagcacttactaagtaagaacaatg 3239
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QY 5232 ctacaaaaaataaaaaaaa 5252
    |||||||
Db 3240 ctacaaaaaataaaaaaaa 3260
    |||||||

RESULT 9
AAV45619
ID AAV45619 standard; DNA; 3260 BP.
XX
AC AAV45619;
XX
DT 04-MAR-1999 (first entry)
XX
DE MEK1 protein coding sequence.
XX
KW Mitogen activated protein kinase kinase kinase; MEK1; MAPK; MEK; cancer;
KW apoptosis regulator; autoimmune disease; inflammation; allergy; therapy;
KW neuronal disorder; ss.
OS Mus sp.
XX
FH Key location/Qualifiers
FT CDS 486..2501
FT /*tag= a
XX
PN US5854043-A.
PD 29-DEC-1998.
XX
PF 14-OCT-1994; 94US-0323460.
XX
PR 14-OCT-1994; 94US-0323460.
PR 15-APR-1993; 93US-0049254.
PR 15-APR-1994; 94WO-US04178.
XX
PA (NAME-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
XX
PI Johnson GL.
XX
DR WPI: 1999-094912/08.
DR P-PSDB; AAW73536.
XX
PT Mitogen activated protein kinase kinases and their fragments -
PT used for regulating signalling from growth factor receptors, e.g. to
PT modulate apoptosis for treatment of cancer, autoimmune disease and
PT inflammation
XX
PS Example 1; Column 11-16; 96pp; English.
XX
XX This sequence encodes the MEK1 protein of the invention. MEK proteins
XX are mitogen-activated protein kinase (MAPK) kinase (MEK) kinase proteins.
XX MEKs phosphorylate and activate MEK proteins and other signal
XX transduction molecules, so can regulate signalling initiated from a
XX growth factor receptor in a way different from that involving Raf
XX protein. Particularly MEKs, or their fragments, are involved in
XX regulation of apoptosis so they, or agents that increase their activity,
XX are used to treat cancers, autoimmune diseases, inflammation, allergies,
XX neuronal disorders (e.g. Alzheimer's or Parkinson's diseases) and in
XX wound healing. MEKs are also useful for identifying agents that
XX regulate signal transduction from cell surface receptors (e.g. from their
XX effect on ability of MEK to phosphorylate a substrate such as MEK or Jun
XX extracellular signal-regulated kinase).
XX
SQ Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other:

```

Query Match 61.8%; Score 3245.8; DB 20; Length 3260;
 Best Local Similarity 99.9%; Pred. No. 0;
 Matches 3256; Conservative 0; Mismatches 2; Indels 1; Gaps 1;

[illegible]

Db	1080	lcaagcaagcctctcccaagctcttcaactcagctcaagaagccccccctccagcttaacaataac	1139
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Db	1140	aggccaagaagccatccccaagccgtttccggcgagatataagaacaaactaggggagcgccaataa	1199
Qy	3192	agtagcatgacacttgatctctggcgagtgcttccagggtgtgacgacaagccttggcgcggc	3251
Db	1200	agtagcatgacacttgatctctggcgagtgcttccagggtgtgacgacaagccttggcgcggc	1259
Qy	3252	ggccaacagttgccaacgccttcaatacccaagcgagaaacagtgcttaacgcggttgaagac	3311
Db	1260	ggccaacagttgccaacgccttcaatacccaagcgagaaacagtgcttaacgcggttgaagac	1319
Qy	3312	aagtgcaagttatagatgtggaacacccggagctcaactccagatctgaagaccttttgaaga	3371
Db	1320	aagtgcaagttatagatgtggaacacccggagctcaactccagatctgaagaccttttgaaga	1379
Qy	3372	lccatgcttcaagtgacaagcagatcttcaagttccgaagtcgcgctctctctccg	3431
Db	1380	lccatgcttcaagtgacaagcagatcttcaagttccgaagtcgcgctctctctccg	1439
Qy	3432	gaaaagcgccgaataatgacgacacctataaagaacgaatcaatcaatcaaaagtgcata	3491
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Qy	3492	gaaaagcgatggaagcttggaagggaggaagccttgacatcgcaatgacgtgacagcgtc	3551
Db	1500	gaaaagcgatggaagcttggaagggaggaagccttgacatcgcaatgacgtgacagcgtc	1559
Qy	3552	caggaatgcctcccccacacacgtctccctcagcttgcaagtggaataatggaagaataatca	3611
Db	1560	caggaatgcctcccccacacacgtctccctcagcttgcaagtggaataatggaagaataatca	1619
Qy	3612	atcagcagagacacacagaatacttccagacataccaagaacgaagcgaacagcttaaga	3671
Db	1620	atcagcagagacacacagaatacttccagacataccaagaacgaagcgaacagcttaaga	1679
Qy	3672	gaagacgcttgagtgctgcaaaagccagatagatgagctctggagcatcttctccctgtaac	3731
Db	1680	gaagacgcttgagtgctgcaaaagccagatagatgagctctggagcatcttctccctgtaac	1739
Qy	3732	caagcagcagagatgctggggagacttggaatgacgttgtaaaacaggttgacgtacgtca	3791
Db	1740	caagcagcagagatgctggggagacttggaatgacgttgtaaaacaggttgacgtacgtca	1799
Qy	3792	aacacatcctcgcagacagagagtggttgaaagcgttgaaaggaaagagatcccgatgatg	3851
Db	1800	aacacatcctcgcagacagagagtggttgaaagcgttgaaaggaaagagatcccgatgatg	1859
Qy	3852	ggtcaacctcaacctccaacaatcatatcccgatgcttgggggccaagtgcgagaaagcgacac	3911
Db	1860	ggtcaacctcaacctccaacaatcatatcccgatgcttgggggccaagtgcgagaaagcgacac	1919
Qy	3912	tacaacctcttcacatgtgagatgacgagcgagagatctctgtgacacctcttgataataac	3971
Db	1920	tacaacctcttcacatgtgagatgacgagcgagagatctctgtgacacctcttgataataac	1979
Qy	3972	ggaagcttcaagagatcagtcgtcatthaactatacactgagcagttactgcgtgtcccttc	4031
Db	1980	ggaagcttcaagagatcagtcgtcatthaactatacactgagcagttactgcgtgtcccttc	2039
Qy	4032	tatctccaacggaacccagatcatctcaaaagagatgaataaagtgccaacctgtctatgtac	4091
Db	2040	tatctccaacggaacccagatcatctcaaaagagatgaataaagtgccaacctgtctatgtac	2099
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Qy 4632 taactaagcattgattgacaaatcactgacactgacactgacactgacactgacactgacactg 2639
Db 2640 taactaagcattgattgacaaatcactgacactgacactgacactgacactgacactgacactg 2639
Qy 4692 cagctgtgacaggaactgacacccgtgcttcacagagagagagagagagagagagagagagag 4751
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Qy 4872 ccagatgcaagatccactggtgttggtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 2879
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Qy 5232 ctacaaaaaataaaaaa 5252
Db 3240 ctacaaaaaataaaaaa 3260

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RESULT 10
ID AAA49222
AAA49222 standard; cDNA; 3260 BP.
XN AAA49222;
AC AAA49222;
DE 19-DEC-2000 (first entry)
XX Murine MEK1 coding sequence.
XX
KW Mouse; MEK1; mitogen ERK kinase; signal transduction pathway;
KW apoptosis; cancer; autoimmune disease; inflammatory response;
KW allergic response; neuronal disorder; Parkinson's disease;
KW Alzheimer's disease; ss.
XX
OS Mus sp.
XX
FH Key
FH 5'UTR
FT 1..485
FT CDS /tag= a
FT 486..2504 /tag= b
FT /product= "MEK1"
FT 2505..3260 /tag= c
XX
PN US6074861-A.
XX
PD 13-JUN-2000.
XX
PF 05-JUN-1995; 95US-0461145.
XX
PR 15-APR-1993; 93US-0049254.
PR 12-MAY-1995; 95US-0440421.
PR 15-APR-1994; 94WO-US04178.
PR 14-OCT-1994; 94US-0323460.
PR 14-OCT-1994; 94WO-US11690.
PR 21-FEB-1995; 95US-0354516.
XX
PA (NAE-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
XX
PI Johnson GL.
XX
DR WPI: 2000-411281/35.
DR P-PSDB: AAB01216.
XX
PT Novel mitogen extracellular signal-regulated kinase kinase (MEK)
PT protein useful for treating cancer, inflammation, autoimmune diseases,
PT neurological disorders and hormone related disease in animals
XX
PS Disclosure; Column 47-54; 92pp; English.
XX
XX
CC The present sequence is the murine mitogen ERK kinase kinase (MEK1)
CC coding sequence. MEK1 is involved in a signal transduction pathway
CC which can ultimately lead to apoptosis. The proteins regulated by MEK1
CC include the MEK and MAPK proteins and c-Myc. The coding sequence was
CC identified by searching a mouse liver cDNA library for sequences similar
CC to the Steil and Byr2 genes from yeast (these are MEK homologues). The
CC gene and protein can be used to treat diseases such as cancer,
CC autoimmune disease, inflammatory responses, allergic responses and
CC neuronal disorders including Parkinson's disease and Alzheimer's disease.
XX
SQ Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;

```

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Query Match 61.8%; Score 3245.8; DB 21: Length 3260;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 3258; Conservative 0; Mismatches 2; Indels 1; Gaps 1;
Qy 1992 tacactcttgcacagctgacgaagaatcaactcagagactcccgccaggtt 2051
|||||

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Db 1 taacactctctgccaagctctgagcaagaatccaacttcagagaactccctccgccaagt 60
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Db 61 gtagacactatctctgtcaagctgtcagat -ccaacagccgagcaagtaagctgtccata 119
QY 2112 tctacaagctgtgaaactctgcgaagcccaagcagagagctgcggtttgagagagaata 2171
Db 120 tctacaagctgtgaaactctgcgaagcccaagcagagagctgcggtttgagagagaata 179
QY 2172 cttaagctctggttccaatcggtgtggtgtcgtatcagttacgttcaagttatccttga 2231
Db 180 cttaagctctggttccaatcggtgtggtgtcgtatcagttacgttcaagttatccttga 239
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Db 1080 tcaagacagctctcccaagcttctctacacagtaagaagcccaacccctcagtaatacac 1139

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 DB 2280 attatagaatggtctgtgcaaaacacaccttggaatgcaaaaacacacctcaatc 2339
 QY 4332 gacctgattatgaagattgttagcgaactactgcacgcgtccatcccgctcaacactgtcc 4391
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 DB 2340 gacctgattatgaagattgttagcgaactactgcacgcgtccatcccgctcaacactgtcc 2399
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 QY 4752 ggcgatgagattcgaatgacacaaagacagagataattatttttggagcatttt 4811
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 DB 3240 ctacaaaaaataaaaaa 3260

RESULT 11
 AAT05570
 ID AAT05570 standard; cDNA: 3260 BP.
 XX
 AC AAT05570;
 XX
 DT 12-MAR-1996 (first entry)
 XX
 DE MEK1 cDNA.
 XX
 KW MEK1; mitogen ERK kinase kinase; signal transduction; homeostasis;
 KW cancer; inflammation; neurological disorder; autoimmune disease;
 KW allergy; hormone-related disease; gene therapy; ss.
 OS Mus sp.
 XX
 FT key Location/Qualifiers
 FT CDS 486..2504
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 MO528421-A1.
 PN 26-OCT-1995.
 PD 14-OCT-1994; 94WO-US11690.
 PE 15-APR-1994; 94WO-US04178.
 PR (NAJE-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
 PA Johnson GL;
 XX WPI: 1995-373762/48.
 DR P-PSDB; AAR7544.
 XX
 PT New signal-regulated kinase proteins and nucleic acids - used for
 PT regulating cell responsiveness for treating e.g. tumours,
 PT auto-immune disease, inflammation or neuronal disorders.
 XX
 PS Claim 3; Page 26-28; 147pp: English.
 XX
 CC cDNA (AAT05570) coding for mitogen ERK kinase kinase MEK1 (AAR7544)
 CC was isolated from a mouse brain cDNA library using a probe
 CC generated from NIH3T3 RNA using primers based on the yeast Ste11 and
 CC By2 genes. The cDNA can be expressed in a host, esp. mammalian,
 CC cell to produce recombinant MEK1 or can be manipulated for use in the
 CC therapy of diseases involving disorders of signal transduction.
 XX
 SQ Sequence 3260 BP; 869 A; 838 C; 792 G; 761 T; 0 other;
 Query Match 61.8%; Score 3244.2; DB 16; Length 3260;
 Best Local Similarity 99.9%; Pred. No. 0;
 Matches 3257; Conservative 0; Mismatches 3; Indels 1; Gaps 1;
 QY 1992 tacactccttgcacagctcggcaggaagaatacaacttaagagactcctcggcaggt 2051
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 DB 1 tacactccttgcacagctcggcaggaagaatacaacttaagagactcctcggcaggt 2051
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 QY 2172 cttaagcttggcaccatcggggtgtgtgtgttcgatttaagttatgtactcttga 2231
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 DB 180 cttaagcttggcaccatcggggtgtgtgtgttcgatttaagttatgtactcttga 2239
 QY 2232 aaccaaagctgaatcaaaacactggaagaactcgtggttcgctctgtctataagagg 2291
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Db 240 aaccaagctgaatcaacaacatgycagaactgctgctgcctctgtcttaatagacag 299
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Db 1320 aagtgtaagtttagatgttgaaacacagctcaactccagatctgagagaaacttcttgaaaga 1379

QY 3372 tccatgctctcaagtgaacagacagacagctcaacttcaagtccgaagtgccgtctctccgc 3431
Db 1380 tccatgctctcaagtgaacagacagacagctcaacttcaagtccgaagtgccgtctctccgc 1439
QY 3432 gaanaagccgaanaatgac 3491
Db 1440 gaanaagccgaanaatgac 1499
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Db 2400 ccggtgtctgagagagtggtcgtgtggtggtggtggtggtggtggtggtggtggtggtggtggt 2459

CC double-stranded DNA (which comprises one of the 7837 "GS" sequences
CC given in AAT19001-726637 and which is able to hybridise to part of
CC human genomic DNA, cDNA or mRNA is claimed. The GS (Gene Signature)
CC sequences were obtained from 3'-directed cDNA libraries prepared
CC from various human tissues; synthesis of cDNA was initiated from the
CC 3'-end of mRNA by using poly(T) as the sole primer. Since the 3'-
CC untranslated sequence is unique to a particular mRNA species, almost
CC all the 3'-oriented cDNAs hybridise with specific mRNAs. Each library
CC is constructed so as to reflect accurately the relative abundance of
CC different mRNAs in the particular tissue from which it was derived.
CC The appearance frequency of a given GS in a cDNA library can be
CC determined (esp. using primers and probes derived from the GS
CC sequences) as a means of diagnosing abnormal cell function or for
CC recognising different cell types.
XX
S0 Sequence 255 BP; 69 A; 45 C; 43 G; 96 T; 2 other;

RESULT	13
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ID	AAA44215 standard; CDNA; 223 bp
XX	
AC	AAA44215;
XX	
DT	21-AUG-2000 (first entry)

OY	3743	cgtgggaactggaacttaatggctgtgnaacagtggaactgcgtcaagaacataccctc	3802
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OY	3803	cgacgaggaagaggtgg-----tggaaagcgttgaagggaagaaaccggaatgatggtca	3856
Db	340	aagaggaagaagacctcaaggtcacatccgagaagctttgaagaagatgaactcttaagaa	399
OY	3857	ccctaaccatccaacaatacctcggatgtctggggcgacgctggcagaagaagacaactcaa	3916
Db	400	tcttccacatccgacaacatcgtatagaacttgggtactctgtaaagaagaatgattcgttgaa	459
OY	3917	cccttcattgaatggatggcgggggagatctgtgctcaaccttgaataatacagagc	3976
Db	460	tattttgatggagtttgttccctcggtggatcaatacatccttcttggagaagttgattc	519
OY	3977	ttccaagggtgaactgcgttaattaactacaactgagcaatfagctggtgcttccatctc	4036
Db	520	tttctctgacctgtgatatattatgttatctacaagaacactctgtgtgggtgaatatct	579
OY	4037	ccaaggaacacgaatcatctcaacagagaagtaaaaaggtgccaaactgctcatgtacagac	4096
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OY	4217	ccctaagagtgtaagagatgatgtgagsgcgtgtgtatgtagagttgttgcgcgcacat	4276
Db	751	catctccagaagcgtgtacatagctctctcgtcgtgatalatgagatgttgggtgcacgtgat	810
OY	4277	agaaatggtgttgcaaaacacaccttggaatgcaganaaaacgctccaatcttcgcgctt	4336
Db	811	tgaatgtgcacggggaagacccctccctggaagcg-----agcgtatcagaagtttgtctgc	864
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Db	865	tgctctcatatgttgaagacaaagctcatctcccaatccagaagaagacctcttacaga	924
OY	4397	tctgcgcgaagctgcccgtgcgtcttgtagaacttaagccttaagagccgctccgtccag	4456
Db	925	ggctaaagccttcttaatgaatagctctcaacaagaacaaagcttgagatctcttgtaac	984
OY	4457	agagcgcgtgaacaatccggtcttcgtaacacgttggtgaattatgttc	4506
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RESULT	15		
ID	AAZ51103		
XX	AAZ51103 standard; cDNA; 2157 BP.		
AC	AAZ51103;		
DT	05-JUN-2000 (first entry)		
DE	A. thaliana MAP kinase kinase Kinase, ANP3 encoding cDNA.		
XX	Stress tolerance; auxin; seed development; agronomic; physiological;		
KW	milogen-activated protein kinase kinase Kinase; MAPKK; developmental;		
ANP3; ss.			
XX	Arabidopsis thaliana.		
OS			
FH	Key	Location/Qualifiers	
FT	CDS	42..1997	
CT	/tag- a		

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/product= "A. thaliana ANP3"  
/note= "Nucleotide sequence (231-1034 bp) encoding kinase  
domain of MAPKKK. It is specifically used in transgene  
constructs"
```

WO200009724-A1

24-FEB-2000.

10-AUG-1999; 99WO-US18150

10-AUG-1998; 98US-0095938.

(GEHO) GEN HOSPITAL CORP.

Sheen J, Chiu W, Kovtun Y;

WPI; 2000-224353/19.

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introducing a transgene comprising DNA encoding a

protein kinase into the plant cell;

Disclosure; Fig 14; 106pp; English

The patent discloses a method for increasing stress tolerance, reducing the action of auxin, altering seed development or increasing the yield in plants by transforming them with a transgene comprising DNA encoding kinase domain of a mitogen-activated protein kinase comprising MAPKKK). MAPKKK may derived from Arabidopsis thaliana or tobacco. This method is also useful for genetically engineering plants to produce altered agronomic, physiological or developmental changes. The present sequence is a cDNA encoding A. thaliana ANP3 protein, which is a MAPKK

Sequence 2157 bp. 618 A. 470 C.

sequence 2157 BP; 618 A; 438 C; 505 G; 596 T; 0 other;

Query Match

2.18; Score 108; DB 21; Length 2157;

Local similarity 49.3%; Pred. No. 2e-15;
 409; conservative 0; Mismatches 100

conservative	0;	Mismatches	400;	Indels	21;	Gaps
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539 ccagataggccctcgagcatlctctcctgttaccagcacaga 374

555aaaggggaalcaaccggtgcgcttgcgaagagttacatgggaatgaa 301

...ggacccllaalggctgtgaacagtgtagcgtacgtaagaacaacatcctc 380

361

3856

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51 ProGlySerAlaGlyArgGlyLysArgAlaAspTrpArgArgHisVal 67
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201 AsnArgArgGlyProValValValLysProLysLysGlyLysGly 217
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615 AACGAGAGAGCGCGCTGTGTGTGAAGCCAATCCCTATTAAGAGATGG 664
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665 ATCTGAAGTGAATTAATTGGCAGCTGAGCCCAAGGAGAGGCGCAGAG 714
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501 SerSerProValGlyLysProAlaSerLeuArgAlaValGlyLysProSe 517
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1515 TCAAGCCCGCTGAGATCCCGCGCTCTGCGAGCTGTCCAGCAGCATTC 1564
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  |||
1565 CTCGCCGAGACAGCCGCTGGCGGATCACAGCGAGAGATTCAGAGAGCA 1614
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ID	seq_documentation_block:
AF27079	standard; DNA; 4693 BP.
AAE27079:	
06-APR-2001	(first entry)
Human MEK1 CDNA.	
Human MEK1; mitogen-activated protein kinase kinase 1;	
MEK kinase 1; MAP/ERK kinase kinase 1; pro-apoptotic;	
apoptosis signal regulation; programmed cell death;	
serine/threonine kinase; MAP kinase cascade; JNK/SAPK;	
Jun N-terminal kinase/stress-activated protein kinase;	
Bcl-2 substrate; NF-kappa-B-mediated transcription regulation;	
expression inhibition; antisense therapy;	
hyperproliferative disorder; cancer; inflammation; ss.	
Homo sapiens.	
Key	Location/Qualifiers
mat_peptide	1..4485
/*tag= a	/product= "Human MEK1"
US6168950-B1.	
02-JAN-2001.	
23-JUL-1999;	99US-0359756.
23-JUL-1999;	99US-0359756.
23-JUL-1999;	99US-0359756.
(ISIS-) ISIS PHARM INC.	
Monia BP, Cowser LM, Gaarde W, Ward DT;	
WPI: 2001-122264/13.	
P-PSDB: AAB60291.	
New antisense compound targeting nucleic acid encoding human	
mitogen-activated protein kinase kinase 1 (MEK1), useful for treating	
diseases or conditions associated with MEK1 expression, or preventing	
inflammation or tumor formation -	
Claim 1: Column 42-54; 35pp; English.	
This sequence represents human MEK1 CDNA. MEK1 (also known as mitogen-	
activated protein kinase kinase 1, MEK kinase 1 and MAP/ERK	
kinase kinase 1) is a dual-specific serine/threonine kinase which	
mediates cellular responses to mitogenic stimuli, being involved in	
JNK/SAPK (Jun N-terminal kinase/stress-activated protein kinase) MAP	
kinase cascades. MEK1 regulates signalling events associated with	
apoptosis (programmed cell death) and NF-kappa-B, both of which have	
been associated with the development of hyperproliferative disorders	
such as cancer. Specifically, MEK1 lies directly downstream of Bcl-2	
in an apoptotic signalling cascade, and plays a critical role in the	
control of NF-kappa-B-mediated transcription at multiple points in the	
apoptotic cascade. The invention relates to antisense oligonucleotides	
targeted to the human MEK1 gene, which inhibit its expression. A series	
of oligonucleotides (AAE27086-AAE27125) were designed to target different	
regions of the human MEK1 RNA, and were analysed for their effect on	
MEK1 mRNA levels by quantitative real-time PCR. The oligonucleotides of	
the invention are useful for diagnosis, prevention and treatment of	
conditions associated with MEK1 expression, such as inflammation, and	
cancer and other hyperproliferative disorders.	
Sequence 4693 BP; 1340 A; 1102 C; 1143 G; 1108 T; 0 other;	
alignment_scores:	
quality: 6723.00	
length: 1501	

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ID AA225069 standard; cDNA: 3911 BP.
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AC AA225069;
XX
DT 09-DEC-1999 (first entry)
XX
DE Human MEK1 nucleotide sequence.
XX
KW MEK1; MEK2; MEK3; mitogen-activated protein kinase; MAPK; ERK;
KW extracellular regulated kinase; signal transduction; regulation;
KW MAPK/ERK; MEK; MKK; inflammation; cellular proliferation;
KW differentiation; development; cell death; ss.
XX
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PD 23-SEP-1999.
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PF 15-MAR-1999; 99WO-US05556.
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XX Johnson GL.
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DR WPI: 1999-571843/48.
DR P-PSDB: AAY42104.
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XX

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PT New human MEK1 polynucleotides and polypeptides, used for regulating
 PT signal transduction in cells -
 PS
 PS
 XX
 XX
 XX
 CC The present sequence encodes human mitogen-activated protein kinase/
 CC extracellular response kinase (MAPK/ERK) kinase kinase (MEKK),
 CC specifically designated MEKK1. The MEKK proteins are used to modulate
 CC gene transcription in a cell encoding MEKK, where the cell is involved
 CC in inflammation, regulation of cellular proliferation and
 CC differentiation, regulation of development, regulation of cell death or
 CC MEKK polynucleotides can be used to produce the protein recombinantly
 CC and as a source of probes and primers.
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Sequence 3911 BP: 1058 A; 973 C; 975 G; 905 T; 0 other;

alignment_scores:

Quality:	6575.50	Length:	1303
Ratio:	5.089	Gaps:	1
Percent Similarity:	99.156	Percent Identity:	97.314

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US-09-403-075-4 x AA225069 ..

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seq_documentation_block:

ID AAx80912 standard; cDNA; 3911 BP.

AC AAx80912;

DT 03-NOV-1999 (first entry)

DE Human MEK1 cDNA.

XX Human MEK1 cDNA; Mitogen ERK Kinase 1 protein; MEK1; protease;
XX extracellular signal regulated kinase; ERK; signal transduction pathway;
XX regulation; apoptosis; protein kinase; cleavage; caspase; antibody;
XX kinase fragment; mutant MEK1 protein; NH2-terminal fragment; detection;
XX immunoreactive; diagnostic; therapeutic assay; reagent; disorder;
XX aberrant expression; activation; MEK1 gene product; DNA probe; primer;
XX selectively hybridise; ss.

OS Homo sapiens.

XX Key Location/Qualifiers
XX CDS 3..3911

FT /tag= a
FT /product= "MEK1 protein"
FT /function= "Regulates cellular apoptosis"
FT mat_peptide 2052..3908
FT /tag= b
FT /note= "Active fragment that mediates apoptosis"

XX W09941385-A1.

XX 19-AUG-1999.

XX 12-FEB-1999; 99MO-US02974.

XX 13-FEB-1998; 98US-0023130.

XX (CADU-) CADUS PHARM CORP.

XX Johnson GL.

XX WPI: 1999-508649/42.

XX P-PSDB; AAY26235.

XX A new mammalian serine-threonine protein kinase for treating
XX disorder characterized by aberration of the enzyme gene

XX Claim 5a; Page 124-130; 149pp; English.

XX The present sequence is an isolated human MEK1 cDNA. It encodes

CC Mitogen ERK Kinase Kinase 1 (MEK1) protein, which functions to
CC integrate proteases and signal transduction pathways involved in the
CC regulation of apoptosis. It is a 196 kDa protein kinase, which upon
CC cleavage at Asp 681/684 by caspase generates a 91 kDa kinase fragment
CC that induces apoptosis and a 113 kDa NH2-terminal fragment. Mutant MEK1
CC proteins that are resistant to cleavage by caspase proteases and capable
CC of inhibiting apoptosis can be produced. MEK1 proteins and antibodies
CC immunoreactive with MEK1 proteins are used in diagnostic and therapeutic
CC assays and reagents for detecting and treating disorders involving
CC aberrant expression or activation of the MEK1 gene products. DNA probes
CC or primers that selectively hybridise to MEK1 cDNA, can be used for its
CC detection in samples.

SO Sequence 3911 BP; 1058 A; 973 C; 975 G; 905 T; 0 other;

alignment_scores:

Quality: 6575.50 Length: 1303
Ratio: 5.089 Gaps: 1
Percent Similarity: 99.156 Percent Identity: 97.314

alignment_block:

US-09-403-075-4 x AAx80912 ..

Align seq 1/1 to: AAx80912 from: 1 to: 3911

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241 LysGlyArgArgSerProSerProGlySerSerProSerGlyArgSer 257

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257 lLysProGlySerProGlyAlaArgArgLysArgValSerProValPro 274

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AC AA079325;
XX
DT 28-JUN-1995 (first entry)
XX
DE Mammalian MEK kinase (MEK 1) cDNA.
XX
KW MEK kinase; MEK 1; mitogen-activated protein kinase regulator;
KW MARK; cell atrophy inhibition; Parkinson's; Alzheimer's; cancer;
KW autoimmune diseases; allergies; wound healing; oncogenes;
KW tumour agents; neurotropic growth factor; ds.
XX
OS Mus musculus.
XX
Key location/Qualifiers
FT CDS 486..2504
FT /*tag= a
XX
W09424159-A.

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Thu Apr 11 16:26:19 2002

us-09-403-075-4.p2n.rng

Page 16

XX 27-OCT-1994.
PD 15-APR-1994: 94MO-US04178.
XX 15-APR-1993: 93US-0049254.
XX (NAJE-).NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
PA Johnson GL:
PI WPI: 1994-357747/44.
DR P-PSDI: AAR66029.
XX New MEK kinase protein and related antibodies and nucleic acid
XX regulator of mitogen activated protein kinase, useful
PT therapeutically to inhibit cell atrophy, to screen for oncogenes
PT etc.
PS Claim 6: Page 8: 84pp; English.
XX AAQ79325 encodes AAR66029 the mammalian MEK kinase (MEK 1), other
XX unique mammalian MEK kinases identified by PCR are described in
CC AAR66030 (MEK 2), AAR66031 (MEK 3) and AAR66032 (MEK 4). MEK is an
CC activator, independent of Raf protein, of mitogen-activated protein
CC kinases (MAPK). Inactivation of MEK can be used in the treatment
CC of some cancers, autoimmune diseases and allergies, while
CC stimulation can promote wound healing. MEK can also be used to
CC alleviate cellular atrophy in Parkinson's or Alzheimer's by acting
CC as a neurotrophic growth factor, and to screen for oncogenes and
CC tumour agents.
XX Sequence 3260 BP: 869 A: 837 C: 793 G: 761 T: 0 other:
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ID AAV22676 standard; CDNA; 3260 BP.
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AC AAV22676;
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DT 17-JUL-1998 (first entry)
XX
DE CDNA encoding a murine mitogen-activated protein kinase (MAPK).
XX
KW Mitogen-activated protein kinase kinase; MAPK; mouse;
KW extracellular signal-regulated kinase kinase; MEKK; regulation;
KW signal transduction; raf-independent arm; screening assay; treatment;
KW disorder; cancer; autoimmune disease; inflammation; allergy;
KW neuronal disease; Parkinson's disease; Alzheimer's disease; ds.
XX
OS Mus sp.
XX
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PD 19-MAY-1998.
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PF 06-JUN-1995; 95US-0472934.
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PR 15-APR-1993; 93US-0049254.
PR 14-OCT-1994; 94US-0323460.
PR 21-FEB-1995; 95US-0354516.
PR 12-MAY-1995; 95US-0440421.
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PA (NAJB-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
XX
PI Johnson GL.
XX
WPI: 1998-311395/27.

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DR P-PSDB: AAW56157.

XX Screening assay for regulators of MEKK signal transduction - using
PT mammalian MEKK polypeptide

PS Claim 6: Columns 29-34; 48bp; English.

XX The present sequence encodes a murine mitogen-activated protein kinase
CC kinase (MAPKK) (also known as extracellular signal-regulated kinase
CC kinase (MEKK)). The protein, which is serine/threonine kinase is capable
CC of regulating signal transduction in cells. It regulates the activity of
CC elements of the raf-independent arm of MEKK. A screening assay for
CC compounds that regulate signal transduction using a mammalian MEKK polypeptide and
CC contacting a reaction mixture containing a mammalian MEKK polypeptide and
CC a test compound and determining the effect of the test compound on an
CC indicator of signal transduction by the MEKK polypeptide in the reaction
CC mixture. Compounds identified by the above assay can be used to prepare
CC therapeutic compositions for treating disorders that are subject to
CC regulation or cure by manipulating a signal transduction pathway in
CC cells involved in the disorders, e.g. cancer, autoimmune diseases,
CC inflammations, allergies, and neuronal diseases such as Parkinson's
CC disease and Alzheimer's disease.

XX Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;

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Quality: 4252.00 Length: 834
Ratio: 5.104 Gaps: 0
Percent Similarity: 99.880 Percent Identity: 99.880

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US-09-403-075-4 x AAV22676 ..

Align seg 1/1 to: AAV22676 from: 1 to: 3260

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1650 GGACATACCAAGCGAAAGCCTTACAGAGAACCGCTGAGTGGCTGAA 1699
1226 sGlyGlnGlnIleGlyLeuGlnLysAlaPheSerSerCysTyrGlnAlaGln 1243
1700 AGGCGACACATAGGCTCGGACATTTCTCTCGTTACCAAGACAGAG 1749
1243 sPValGlyThrGlyThrLeuMetAlaValLysGlnVal1ThrTyrValArg 1259
1750 ATGTGGGAGATGGGACTTATATGGCTGTGAACAGAGTACGACTGCTAGA 1799
1260 AsnThrSerSerGluGlnGluValValGlnAlaLeuArgGluGln 1276
1800 AACACATCCCTCCAGAGAGAGAGTGTGAAAGCCTTGAGGAGAGAT 1849
1276 eArgMetMetGlyHisLeuAsnHisProAsnIleIleArgMetLeuGln 1293
1850 CCGGATGATGGTCACTCAACCATCAACATCATCCGATCGTGGGG 1899
1293 IatThrCysGluLysSerAsnTyrAsnLeuPheIleGluTrpMetAlaGly 1309
1900 CCACGTCGAGAGAGAGCACTACACCTCTTCATGTAGTGAGTGGCGGA 1949
1310 GlySerValAlaHisLeuLeuSerLysTyrGlyAlaPheLysGluSerVal 1326
1950 GGATCTGTGGCTCACCTTGTAGTAAATACGAGAGCTTCAAGGAGTCA 1999
1326 ValIleAsnTyrThrGluGlnLeuLeuArgGlyLeuSerTyrLeuHisG 1343
2000 CGTCATTTACTACCTGACGAGTACTGCGTGGCTTCTCTATCTCCAGC 2049
1343 LuSnGlnIleIleHisArgAspValLysGlyAlaAsnLeuLeuLeuAsp 1359
2050 AGAACGAGATCATTCACAGAGAGCTCAAGAGTGCACACCTGCTATGAC 2099
1360 SerThrGlyLysArgLeuArgIleAlaAspPheGlyValAlaAlaArgLe 1376
2100 AGACCCGCTAGAGGCTGAGAAATTCGAGACTTGGAGCTCTCGCACAGT 2149
1376 uAlaSerLysGlyThrGlyValaGlyLysPheGlnGlnLeuLeuGlnTyr 1393
2150 GGCATCAAAAGGAACCGGTGACAGAGAGTTCAGAGGACATTTACTGGGA 2199
1393 hTrIleAlaPheMetAlaProGluValLeuArgGlyGlnGlnTyrGlyArg 1409
2200 CAATTCATTCATGGCGCTGAGGTCTTAAGAGGTGACGATATGGTAGG 2249
1410 SerCysAspVal1TrpSerValGlyCysAlaIleIleGluMetAlaCysAl 1426
2250 AGCTGTATGTATGAGTGTGGCTGGCGCATTAAGAAATGGCTTGTGC 2299

1426 aLysProProTPrAsnAlaGluLysHisSerAsnHisLeuAlaLeuIleP 1443
2300 AAAACCACTTGGAGATGCAAGAAAAACACTCATCATCTGCTTGATAT 2349
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1476 pArgProProSerArgGluLeuLeuLysHisProValPheArgThrTyr 1493
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2500 GG 2501
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seq_documentation_block:
ID AA231877 standard; cDNA; 3260 BP.
XX
XX AA231877;
XX
XX 24-JAN-2000 (first entry)
XX
XX Mitogen ERK kinase kinase, MEK-1, coding sequence.
DE
XX Mitogen ERK kinase kinase; MEK-1; neurological disorder; cancer;
KW extracellular signal-regulated kinase; inflammation; autoimmune disease;
KW allergic reaction; hormone related disease; therapy; ds.
XX
XX Mus sp.
OS
XX
XX US5981265-A.
PN
XX
XX 09-NOV-1999.
PD
XX
XX 05-JUN-1995; 95US-0461146.
PF
XX
XX 15-APR-1993; 93US-0049254.
PR
XX 12-MAY-1995; 95US-0440421.
PR 15-APR-1994; 94WO-0504178.
PR 14-OCT-1994; 94US-0323460.
PR 14-OCT-1994; 94WO-US11690.
PR 28-NOV-1994; 94US-0345516.
XX
XX (NAJE-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
FA
XX
XX Johnson GL;
PI
XX
XX WPI: 1999-633328/54.
DR P-PSDB: AA43318.
DR
XX
XX Regulating mitogen extracellular signal-regulated kinase protein
PT activity, useful for the treatment of cancer, neurological diseases and
PT autoimmune diseases
XX
XX Claim 1; Column 49-54; 94pp; English.
PS
XX
XX This sequence encodes the mitogen ERK (extracellular signal-regulated
CC kinase) kinase kinase-1 (MEK-1). The invention relates to a method of
CC regulating MEK protein activity in a fungal cell by transforming or
CC transfecting the cell with a nucleic acid encoding an MEK protein. The
CC MEK protein is useful for treating cancer, inflammation, neurological
CC disorders, autoimmune diseases, allergic reactions, and hormone related
CC diseases.
XX
XX Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;
SQ

alignment_scores:

Quality: 4252.00 Length: 834
Ratio: 5.104 Gaps: 0
Percent Similarity: 99.880 Percent Identity: 99.880

alignment_block:

US-09-403-075-4 x AA231877 ..

Align seg 1/1 to: AA231877 from: 1 to: 3260

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1 TACACTCTTGCACAGTCTGGCAGAAAGATCAACTTCAGAGACTCT 50
676 uArgProValValAspThrIleLeuValLysCysAlaAspAlaAsnSerA 693
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51 CCGGCCAGTTGTAGACACTATCTTGTCAAGTGTGCAGATCC.AACAGCC 99
693 rGThrSerGlnLeuSerIleSerThrValLeuGlnLeuCysLysGlyGln 709
|||||
100 GCAGAGAGTCACTGCTCATATCTACAGTCTGGAAGCTGCAAGGGCCAA 149
710 AlaGlyLeuLeuAlaValGlyArgGlnIleLeuLysAlaGlySerIleG 726
|||||
150 GCAGAGAGAGTGGCGGTGGGAGAGAAATACTTAAAGCTGGTCCATCGG 199
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793 euleuthrPheAlaLeuGlnSerIleAspAsnSerHisSerMetValGly 809
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400 TCTTAACTTTCCTTCATTCATGACATTCACATTCGATGCTGGC 449
810 LysLeuSerArgArgIleTyrLeuSerSerAlaArgMetValThrAlaVa 826
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450 AAGCTCTCTGGAGGATATCTGAGCTGTGCGAGATGGTGACCCAGT 499
826 LProAlaValPheSerLysLeuValThrMetLeuAsnAlaSerGlySer 843
|||||
500 GCCCGCTGTTCCTTCCAAAGCTGGTAACCATGCTTAATGCTTGTGGCTCA 549
843 hrHisPheThrArgMetArgArgArgLeuMetAlaIleAlaAspGluVal 859
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550 CCCACTTCACCAAGATGCGCGGGTGTGATGGCTATCGGGAGTGGAGTA 599
860 GlnIleAlaGluValIleGlnLeuGlyValGluAspThrValAspGlyH 876
|||||
600 GAATATTGCCAGAGTCATCCAGTGGGTGTGAGAGACACTGTGATGGCA 649
876 sGlnAspSerLeuGlnAlaValAlaProThrSerCysLeuGlnAsnSer 893
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650 TCAAGGACAGCTTACAGCGCGTGGCCCCACACACTGCTAGAAAAACAGCT 699
893 eArgLeuGlnHisThrValHisArgGlyLysThrGlyLysGlyLeuSerAla 909
|||||
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850 TTCAAAACAAAGGACAGACCCACAGTCACTGTGAACTCTCCCTTGC 899
960 SerHisAlaGlnLeuMetPheProAlaProSerAlaProCysSerSerAl 976
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900 TCTCATGCTCATTAATGTTCTCCAGCACATCAAGCCCTTGTCTCTGC 949
976 aProSerValProAspIleSerLysHisArgProGlnAlaPheValPro 993
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950 CCCGCTGTCCAGATATTTCTAAGCACAGACCCAGGCAATTTTCCCT 999
993 yLysIleProSerAlaSerProGlnThrGlnArgLysPheSerLeuGln 1009
|||||
1000 GCAAAATAACCTCCGATCTCTCCAGACACAGCCCAAGTTCTCTACAA 1049
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1200 AGTAGCATGACACTTGTATGTGGAGAGTGTCCAGAGGTGACACACTT 1249
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1300 TGTTCACGCCGGTGGAGACAAAGTGAAGTGAAGTGAACACCGAGACTC 1349
1110 AsnSerSerIleGlnAspLeuGlnAlaSerMetProSerSerAspTh 1126
|||||
1350 AACTCCAGCATCGAGGACTTCTTGAAGCATCCATGCTTCAGTGAAC 1399
1126 rThrValThrPheLysSerGluValAlaValIleLeuSerProGluLysAlaG 1143
|||||
1400 GACAGTCACTTCAAGTCCGAAGTGGCGGCTCTCTCCGAAAAAGGCGC 1449
1143 IuAsnAspAspThrTyrLysAspAspValAsnHisAsnGlnLysCysLys 1159
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1800 AACACATCTCTCGAGCAGAGAGGTGTGAAGCTTGAGGAGAGAGAT 1849
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1850 CCGGATGATGGGTCACTCAACCATCCAAACATCATCCGATGCTGGGG 1899
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2100 ACACCGCGTCAGAGGCTGAGAAATTCGACACTTGGAGCTGCTGCCAGTT 2149
1376 uAlaSerLysGlyThrglyAlaGlyLupheGlnGlnLeuLeuGlyLT 1393
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2200 CAATTCTATTCAATGGCGCTGAGGCTCTTAAGAGGTCAAGCATGTGTAG 2249
1410 SerCysAspValTrpSerValGlyCysAlaIleIleGluMetAlaCysAl 1426
2250 ACCTGTGATGTATGAGTGTGGCTGCCCATTTATGAATGGCTTGTGC 2299
1426 aLysProPOTrPAsnAlaGlnLysHlsSerAsnHlsLeuAlaLeuIleP 1443
2300 AAAACACACTTGGAAATGCAGAAAAACACTCCATCATCTCGCTTATAT 2349
1443 hEllysIleAlaSerAlaThrThrlaProSerIleProSerHlsLeuSer 1459
2350 TTAAGATGCTGAGCGCACTAGCACGTCATCCGTCACACGCTGTCC 2399
1460 ProGlyLeuArgAspValAlaValArgCysLeuGlnLeuGlnProGlnAs 1476
2400 CCGGGTCTGCGGACGTGGCGCTGCTTAAAGACTTCAGCTCAGCA 2449
1476 pArgProPOTrSerArgGlnLeuLeuLysHlsProValPheArgThThT 1493
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1493 rp 1493
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2500 GG 2501

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seq_documentation_block:

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ID AAV45619 standard; DNA; 3260 BP.
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AC AAV45619;
XX
DT 04-MAR-1999 (first entry)
XX
DE MEK1 protein coding sequence.
XX
KW Mitogen activated protein kinase kinase kinase; MEK1; MAPK; MEK; cancer;
KW apoptosis regulator; autoimmune disease; inflammation; allergy; therapy;
KW neuronal disorder; ss.
XX
OS Mus sp.
XX
FH Key location/Qualifiers
FT CDS 486..2501
FT /*tag= a
XX
XX US5854043-A.
XX
XX 29-DEC-1998.
XX
XX 14-OCT-1994; 94US-0323460.
XX
XX 14-OCT-1994; 94US-0323460.
XX
XX 15-APR-1993; 93US-0049254.
XX
XX 15-APR-1994; 94WO-US04178.
XX
XX (NAME-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
XX
XX Johnson GL;
XX
XX WPI: 1999-094912/08.
XX
XX P-PSDB: AAW73536.
XX
XX PT Mitogen activated protein kinase kinase kinases and their fragments -
XX PT used for regulating signalling from growth factor receptors, e.g. to
XX PT modulate apoptosis for treatment of cancer, autoimmune disease and
XX PT inflammation
XX
XX Example 1: Column 11-16; 96pp: English.
XX
XX PS
XX
XX CC This sequence encodes the MEK1 protein of the invention. MEK proteins
XX CC are mitogen-activated protein kinase (MAPK) kinase (MEK) kinase proteins.
XX CC MEKs phosphorylate and activate MEK proteins and other signal
XX CC transduction molecules, so can regulate signalling initiated from a
XX CC growth factor receptor in a way different from that involving Raf
XX CC protein. Particularly MEKs, or their fragments, are involved in
XX CC regulation of apoptosis so they, or agents that increase their activity,
XX CC are used to treat cancers, autoimmune diseases, inflammation, allergies,
XX CC neuronal disorders (e.g. Alzheimer's or Parkinson's diseases) and in
XX CC wound healing. MEKs are also useful for identifying agents that
XX CC regulate signal transduction from cell surface receptors (e.g. from their
XX CC effect on ability of MEK1 to phosphorylate a substrate such as MEK or Jun
XX CC extracellular signal-regulated kinase).
XX
XX SO Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;

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alignment_scores:
  Quality: 4252.00      Length: 834
  Ratio: 5.104          Gaps: 0
  Percent Similarity: 99.880  Percent Identity: 99.880
alignment_block:
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Align seg 1/1 to: AAV45619 from: 1 to: 3260

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FT CDS 486..2504 /*tag= b
FT /product= "MEKK1"
FT 3' UTR 2505..3260 /*tag= c
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XX US6074861-A.
XX
XX 13-JUN-2000.
XX
XX 05-JUN-1995; 9505-0461145.
XX
XX 15-APR-1993; 9305-0049254.
XX 12-MAY-1995; 9505-0440421.
XX 15-APR-1994; 9400-US04178.
XX 14-OCT-1994; 9405-0323460.
XX 14-OCT-1994; 9400-US11690.
XX 21-FEB-1995; 9505-0354516.
XX
XX (NAJE-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
XX
XX Johnson GL;
XX
XX WPI; 2000-411281/35.
XX
XX P-PSDB; AAB01216.
XX
XX Novel mitogen extracellular signal-regulated kinase (MEKK)
XX protein useful for treating cancer, inflammation, autoimmune diseases,
XX neurological disorders and hormone related disease in animals
XX
XX Disclosure; Column 47-54; 92pp; English.
XX
XX The present sequence is the murine mitogen ERK kinase kinase (MEKK1)
XX coding sequence. MEKK1 is involved in a signal transduction pathway
XX which can ultimately lead to apoptosis. The proteins regulated by MEKK1
XX include the MEK and MAPK proteins and c-Myc. The coding sequence was
XX identified by searching a mouse liver cDNA library for sequences similar
XX to the Ste11 and Bcr2 genes from yeast (these are MEKK homologues). The
XX gene and protein can be used to treat diseases such as cancer,
XX autoimmune disease, inflammatory responses, allergic responses, and
XX neuronal disorders including Parkinson's disease and Alzheimer's disease
XX
XX SQ Sequence 3260 BP; 869 A; 837 C; 793 G; 761 T; 0 other;
XX
XX alignment_scores:
XX Quality: 4252.00 Length: 834
XX Ratio: 5.104 Gaps: 0
XX Percent similarity: 99.880 Percent identity: 99.880
XX
XX alignment_block:
XX US-09-403-075-4 x AAAA9222 ..
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XX Align seg 1/1 to: AAAA9222 from: 1 to: 3260
XX
XX 660 TyrThrProGSHisSerLeuAlaGluArgTlleLysLeuGlnArgLeuLe 676
XX |||||||
XX 1 TACACTCCCTTGCCACAGTCTGCGAANAAGAAATCAAACTTCAGAGACTCCT 50
XX
XX 676 uArpProValValAspThrIleLeuValLysCysAlaAspAlaAsnSerA 693
XX |||
XX 51 CCGCGCACTTTAGACACTATCTCTTGCAAGTGCAGATCC.AACGCC 99
XX
XX 693 rGthrSerGlnLeuSerIleSerThrValLeuGlnLeuCysLysGlyGln 709
XX |||||
XX 100 GCACAGAGCAGCTGTCATATCTACACTGCTGCAGAACTCTCAAGGGCCAA 149
XX |||||
XX 710 AlAGlyGlnLeuAlaValAlGlyArgGlnIleLeuLysAlaGlySerIleG 726
XX |||||||
XX 150 GCAGAGAGGCTGGCGGTTGGAGAGAAATACTTAAACCTGGGTCCATCCG 199

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726 yValGlyValAspTyrValLeuSerCysIleLeuGlnVal 743
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810 LysLeuSerArgArgIleTyrLeuSerSerAlaArgMetValThrAlaVal 826
450 AAGCTCTCTGGAGATATATCTAGCTCTGCCAGATGGTGACCGAGT 499
826 LProAlaValPheSerLysLeuValThrMetLeuAsnAlaSerGlySer 843
500 GCCCGTGTGTTTCCAAGCTGGTAACCATTCCTTATGCTTGGCTCCA 549
843 hrHisPheThrArgMetArgArgArgLeuMetAlaIleAlaAspGluVal 859
550 CCCACTTCCACAGATGCGCGCGCTGATGCTATCCGCGAGAGAGTA 599
860 GluIleAlaGluValIleGlnLeuGlyValGluAspThrValAspGlyHis 876
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960 SerHisAlaGlnLeuMetPheProAlaProSerAlaProCysSerSerAl 976
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976 aProSerValProAspIleSerLysHisArgProGlnAlaPheValProC 993
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993 yAlaLysIleProSerAlaSerProGlnThrGlnArgLysPheSerLeuGln 1009
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1010 PheGlnArgAsnCysSerGlnHisArgAspSerAspGlnLeuSerProVal 1026
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DT 12-MAR-1996 (first entry)
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DE MEK1 cDNA.
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KW cancer; inflammation; neurological disorder; autoimmune disease;
KW allergy; hormone-related disease; gene therapy; ss.
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XX
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XX
PN WO9528421-A1.
XX
PD 26-OCT-1995.
XX
PF 14-OCT-1994; 94MO-US11690.
XX
PR 15-APR-1994; 94MO-US04178.
XX
PA (NAE-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
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PI Johnson GL:
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DR WPI: 1995-373762/48.
DR P-PSDB; AAR7544.
XX
PT New signal-regulated kinase proteins and nucleic acids - used for
PT regulating cell responsiveness for treating e.g. tumours,
PT auto-immune disease, inflammation or neuronal disorders.
XX
PS Claim 3; Page 26-28; 147pp: English.
XX
CC cDNA (AAU05570) coding for mitogen ERK kinase MEK1 (AAR7544)
CC was isolated from a mouse brain cDNA library using a probe
CC generated from NIH3T3 RNA using primers based on the yeast Ste11 and
CC Bcr2 genes. The cDNA can be expressed in a host, esp. mammalian,
CC cell to produce recombinant MEK1 or can be manipulated for use in the
CC therapy of diseases involving disorders of signal transduction.
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XX (SUMO) SUMITOMO CHEM CO LTD.
XX
XX WPI: 1993-284683/36.
XX
XX P-PSDB; AAR40974.
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PT plants - used to control expression of invertase for crop
PT increase
PS Claim 1; Page 6; 7pp; Japanese.
PS
XX The gene can be used to control the expression of invertase.
CC By inducing the yeast invertase gene an increase in crop yield can
CC be obtained.
CC
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XX   mitogen-activated protein kinase kinase kinase; MAPKKK; developmental;
XX   NPK1; tobacco; ss.
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XX   (GENO ) GEN HOSPITAL CORP.
XX
XX   Sheen J, Chiu W, Kovtun Y;
XX
XX   MPI: 2000-224353/19.
XX   P-PSDB; AAT70101.
XX
XX   Increasing stress resistance or tolerance in plants comprises
XX   introducing a transgene comprising DNA encoding kinase domain of
XX   mitogen-activated protein kinase kinase kinase into the plant cells
XX
XX   Disclosure; Fig 15; 106pp; English.
XX
XX   The patent discloses a method for increasing stress tolerance, reducing
XX   the action of auxin, altering seed development or increasing the yield
XX   in plants by transforming them with a transgene comprising DNA encoding
XX   kinase domain of a mitogen-activated protein kinase kinase kinase
XX   (MAPKKK). MAPKKK may be derived from Arabidopsis thaliana or tobacco. This
XX   method is also useful for genetically engineering plants to produce
XX   altered agronomic, physiological or developmental changes. The present
XX   sequence is a cDNA encoding tobacco NPK1 protein, which is a MAPKKK.
XX
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XX       Ratio: 2.728        Gaps: 6
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XX   05-JUN-2000 (first entry)
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RESULT 6

AAQ79325 standard; cDNA: 3260 BP.

AAQ79325:

28-JUN-1995 (first entry)

Mammalian MEK kinase (MEK1) cDNA.

DE MEK kinase; MEK1; mitogen-activated protein kinase regulator; MARK; cell atrophy inhibition; Parkinson's; Alzheimer's; cancer; autoimmune diseases; allergies; wound healing; oncogenes; tumour agents; neurotropic growth factor; ds.

OS Mus musculus.

Key location/Qualifiers

CD5 486.2504

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W09424159-A.

27-OCT-1994.

15-APR-1994; 94MO-US04178.

15-APR-1993; 93US-0049254.

(NAME-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.

Johnson GL;

WPI: 1994-357747/44.

P-PSDB; AAR66029.

New MEK kinase protein and related antibodies and nucleic acid regulator of mitogen activated protein kinase, useful therapeutically to inhibit cell atrophy, to screen for oncogenes etc.

Claim 6; Page 8; 84pp; English.

?

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XX AA079325 encodes AAR6029 the mammalian MEK kinase (MEK 1), other
CC unique mammalian MEK kinases identified by PCR are described in
CC AAR6030 (MEK 2), AAR6031 (MEK 3) and AAR6032 (MEK 4). MEK is an
CC activator, independent of Raf protein, of mitogen-activated protein
CC kinases (MAPK). Inactivation of MEK can be used in the treatment
CC of some cancers, autoimmune diseases and allergies, while
CC stimulation can promote wound healing. MEK can also be used to
CC stimulate cellular atrophy in Parkinson's or Alzheimer's by acting
CC as a neurotrophic growth factor, and to screen for oncogenes and
CC tumour agents.

XX Sequence 3260 BP, 869 A, 837 C, 793 G, 761 T, 0 other;

Query Match 61.8%; Score 3245.8; DB 15; Length 3260;
Best Local Similarity 99.9%; Pred. No. 0;
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XX AAV22676;

XX 17-JUL-1998 (first entry)

XX cDNA encoding a murine mitogen-activated protein kinase kinase (MAPKK).

XX Mitogen-activated protein kinase kinase; MAPKK; mouse;

KW extracellular signal-regulated kinase kinase; MEKK; regulation;

KW signal transduction; raf-independent arm; screening assay; treatment;

KW disorder; cancer; autoimmune disease; inflammation; allergy;

KW neuronal disease; Parkinson's disease; Alzheimer's disease; ds.

XX Mus sp.

XX Key Location/Qualifiers

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XX US5753446-A.

XX 19-MAY-1998.

XX 06-JUN-1995; 95US-0472934.

XX 15-APR-1993; 93US-0049254.

XX 14-OCT-1994; 94US-0323460.

XX 21-FEB-1995; 95US-0354516.

XX 12-MAY-1995; 95US-0440421.

XX (NAME-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.

XX Johnson GL.

XX MPI: 1998-311395/27.

XX P-PSDB: AAW56157.

XX Screening assay for regulators of MEKK signal transduction - using

XX mammalian MEKK polypeptide

XX Claim 6; Columns 29-34; 48pp; English.

XX The present sequence encodes a murine mitogen-activated protein kinase

XX kinase (MAPKK) (also known as extracellular signal-regulated kinase

XX kinase (MEKK)). The protein, which is serine/threonine kinase is capable

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DF 17-JUL-1998 (first entry)
XX
DE cDNA encoding a murine mitogen-activated protein kinase (MAPK).
XX
KW Mitogen-activated protein kinase kinase; MAPKK; mouse;
KW extracellular signal-regulated kinase kinase; MEKK; regulation;
KW signal transduction; raf-independent arm; screening assay; treatment;
KW disorder; cancer; autoimmune disease; inflammation; allergy;
KW neuronal disease; Parkinson's disease; Alzheimer's disease; ds.
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PR 14-OCT-1994; 94US-0323460.
PR 21-FEB-1995; 95US-0354516.
PR 12-MAY-1995; 95US-0440421.
XX
PA (NAJE-) NAT JEWISH CENT IMMUNOLOGY & RESPIRATORY.
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PI Johnson GL;
XX
DR WPI: 1998-311395/27.

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LOCUS RNU48596 5180 bp mRNA ROD 05-JUN-1996

DEFINITION Rattus norvegicus MAP kinase kinase kinase 1 (MEKK1) mRNA, complete cds.

ACCESSION U48596

VERSION U48596.1 GI:1354136

KEYWORDS

SOURCE Norway rat.

ORGANISM Rattus norvegicus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

REFERENCE 1 (bases 1 to 5180)

AUTHORS Xu, S., Robbins, D.J., Christerson, L.B., English, J.M., Vanderbilt, C.A. and Cobb, M.H.

TITLE Cloning of rat MEK kinase 1 cDNA reveals an endogenous membrane-associated 195-kDa protein with a large regulatory domain

JOURNAL Proc. Natl. Acad. Sci. U.S.A. 93 (11), 5291-5295 (1996)

MEDLINE 96224276

REFERENCE 2 (bases 1 to 5180)

AUTHORS Cobb, M.H.

TITLE Direct Submission

JOURNAL Submitted (06-FEB-1996) Melanie H. Cobb, Department of Pharmacology, University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Blvd., Dallas, TX 75235, USA

FEATURES

source Location/Qualifiers

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